SEPTEMBER / OCTOBER 1992

U.S. $7.95

THE HP Palmtop Paper

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Printers for the HP 95LX

A look at four light-weight, battery powered printers for on the road, or at home: The Canon bubble Jet 10e, the Citizen PN48, the Diconix 180si, and the Seiko DPU-411.

Introduction by Rich Hall

We continue to receive letters asking which printers are most suitable for the HP 95LX. Portability, ease of use, print quality, and price were the key issues in our minds, so we looked at battery-powered portable printers under 5 lbs. that could connect easily to the 95LX. Two of the printers discussed have serial ports and can connect directly to the 95LX. The others have parallel ports and must use a serial-to-parallel adapter to connect to the 95LX.

What follows is the experience of different 95LX users. If any subscriber has feedback on these, or other printers, please drop us a line.

One final note on list price. Manufacturer's suggested retail price and "street price" may vary 25% or more, so you may want to shop around!

(Continued on page 5.)

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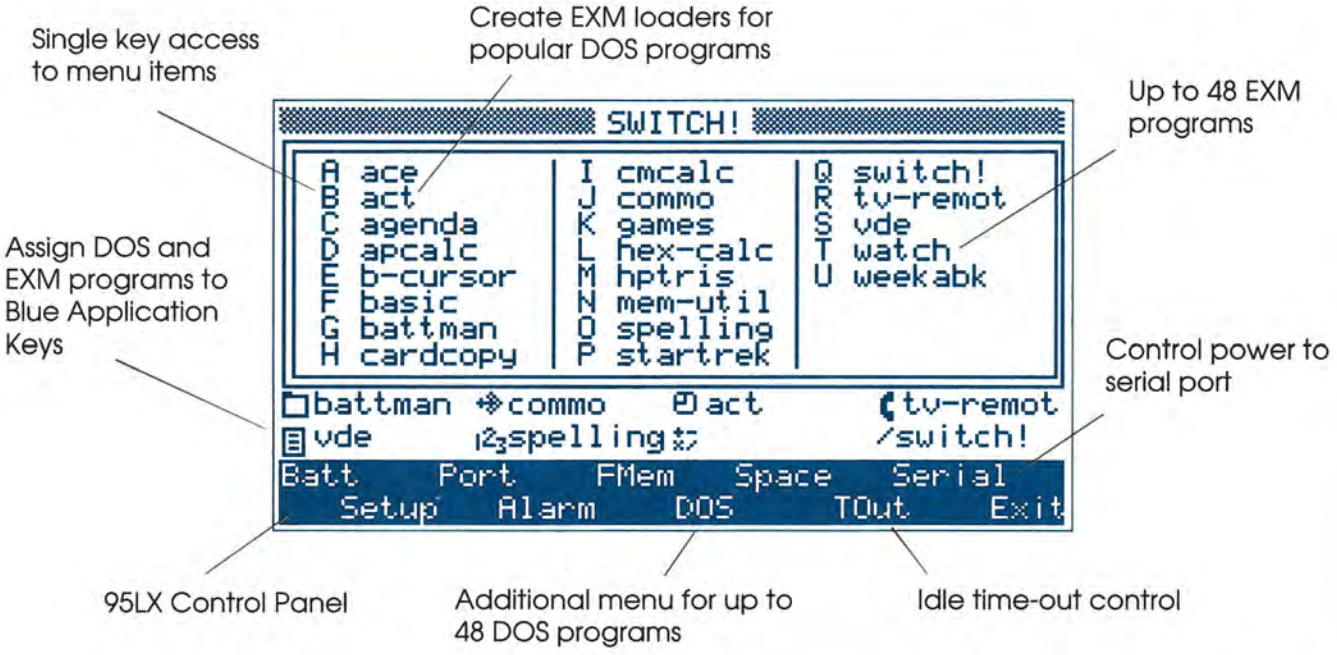
"SWITCH! is presently the closest thing to an all-in-one utility for the 95LX."

.... Palmtop Paper August 1992



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Menu-driven and easy-to-use user interface gives you instant access to all of your HP 95LX programs plus a powerful control panel. ***SWITCH!*** allows you to run DOS programs using the Blue Application keys. Popular DOS programs like ***ACT!*** can be launched directly using a "hot-key" without closing other 95LX applications. ***SWITCH!*** also provides a block cursor, capslock display and much more. ***SWITCH!*** even lets you change your default C:_DAT directory.

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Publisher's Message

Hal Goldstein

Our focus this issue on peripherals contains a contradiction. The advantage of the HP Palmtop is its size; we can take it everywhere we go. However, there are times when we want to print a memo or spreadsheet directly, read a file from a 3 1/2" disk into the 95LX, or plant the HP 95LX in one spot. To accomplish this we need peripherals twice the size and weight of the HP 95LX. We succumb to this contradiction of size, this issue and take a look at portable printers, a portable disk drive, and a docking station, all well-suited for the HP 95LX.

Also, in this issue Mark Scardina takes a new look at data compression. Mark shows us how Stacker and the ACE DoubleCard can literally double the amount of disk space on a RAM disk and even on the built-in C drive. We also take a brief look at alternatives to CompuServe; American OnLine and Prodigy. You will also find the usual assortment of tips and discussions of other products – in particular, you'll notice an expanded New Products section.

Finally, based on many requests, we are starting a technical support service called ASK THADDEUS! Call or fax your problem. After researching a solution, we will call you back. In order for this service to evolve and be of service to you, we need both your feedback and your patience. See page 15 for more details.

IMPORTANT NOTE TO MENU95 SUBSCRIBERS DISK USERS VERSIONS 1.03 AND EARLIER:

If you use MENU95 on your HP 95LX, there is a small chance that a bug in the HP 95LX can damage files and eventually the entire C drive. Thanks to Mark Scardina who identified the problem and its solution.

THE PROBLEM: Suppose you run a program with a COM extension from DOS, such as BATTCK.COM. If you have less then 64K of System RAM, DOS should tell you, "not enough memory." Instead, 95LX DOS runs the program, and can possibly destroy a C drive file or even the entire C drive. (Symptom: "Data error reading drive C" message). Normally this isn't a problem, since under most circumstances you will have more than 64K of System RAM. However, if you have a number of built-in applications open and then run MENU95, there may be less than 64K remaining. If you then run a COM program such as BATTCK.COM from MENU95 with under 64K remaining, there is a possibility that file corruption will take place.

Mark Scardina has come up with the following solution which will protect the C drive when you run COM files from MENU95. (Alternatively, you can use the COMTOEXE.EXE program described on page 9 of the Subscriber Disk manual, where you'll read that we thought we had solved the COM problem with MENU95).

English-HP 95LX owners can do the following. Non-English HP 95LX owners can do the same thing using MS DOS DEBUG on their PC.

1. Rename MNU95.EXE to MNU95.BIN and put MNU95.BIN on the HP 95LX C drive.
2. In MEMO enter the following lines (called a DEBUG script) in caps exactly as written below. Save the file as C:\FIX.SCR.

```
N C:\MNU95.BIN
L
E 10B 0F
E 171 F6
E 172 A8
E 155E 34
E 1566 0E
RCX
15EF
W
Q
```

3. Enter DOS from FILER. At the DOS prompt enter the command:

```
C:\_SYS\DEBUG < C:\FIX.SCR
```

4. Type EXIT to return to Filer and rename MNU95.BIN to MNU95.EXE

If you prefer, please send us $2.00 ($5 overseas) stating the disk size and we will send you a new disk with a corrected MENU95.

The HP Palmtop Paper

Volume one / Number five
September / October 1992

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The HP Palmtop Paper is published bimonthly by Thaddeus Computing Inc., at 57 East Broadway Avenue, Fairfield, IA 52556. Second-class postage pending at Fairfield, Iowa. Subscription rates payable in U.S. dollars, checks drawn on a U.S. bank, or by credit card – one year: $39; two years: $69. Postage: U.S. and U.S. possessions free; Canada, Mexico add $6 per year; other countries add $18 per year. Please allow four to six weeks for receipt of first issue. Executive, Editorial, Circulation, Marketing and Advertising Offices: P.O. Box 869, Fairfield, IA 52556. Telephone: (515) 472-6330, FAX: (515) 472-1879. Copyright 1992, Thaddeus Computing, Inc., all rights reserved. No part of this publication may be reproduced without written permission. Reasonable efforts are made to provide accurate and useful information, but the reader must make his or her own investigations and decisions; the Publisher and Editorial Staff cannot assume any responsibility or liability for the use of information contained herein.

POSTMASTER: Please send any address changes to *The HP Palmtop Paper*, Attn: Thaddeus Computing, Inc., P.O. Box 869, Fairfield, IA 52556.

Russian TopCard

Thanks for publishing my letter in the May/June issue, on page 42. I still have not found a Russian text editor, however, I have created a TopCard file (RUSSIAN.PCX) with the Russian word for "hello" on it. Copy the RUSSIAN-.PCX file to your 95LX's C:_DAT directory, rename it TOPCARD.PCX, and you'll see the following card on your 95LX when you turn it on.

You rename the file "TOP-CARD.PCX" so that the 95LX treats it like its own TopCard, and allows the information you enter in the Owner information section of SET UP to appear along with the image. I left the inside of the frame blank for this reason. You can also go into SET UP, press Owner Picture-File, and enter RUSSIAN.PCX to get this image to show up on the screen. If you do it this way, however, the information you entered in Owner will not show on the screen.

I put a picture of a flying saucer on the right side of the frame. I couldn't get rid of the "Press a blue application key" message at the bottom line.

Ahmet G. Ozisik
Istanbul TURKEY

Keeping Score with the 95LX

Besides being an avid reader of *The HP Palmtop Paper* and user of the HP 95LX, I am a Tennis buff. While watching the Canadian Open and the Volvo International Tennis Tournaments, I noticed the umpire keeping score with the HP 95LX. In fact, the 95LX got a plug of sorts during the Canadian Open when the announcers explained how much easier and faster it was to get the match stats by down loading the info kept by the umpire from the 95LX to a PC, printing it out and giving it to the media. My question is, what program do they use, was it specially written, and how can I get a copy of it?

P. M. Smith
Springfield OR, USA

Does Palmtop Resources Exist?

In the July/August issue of *The HP Palmtop Paper*, on page 42, you mention a company named "Palmtop Resources" from Dallas, Texas, USA. Their telephone is not in service, and a friend of mine in Dallas tried unsuccessfully to locate their office.

As we use several of the programs listed in the description of their services, I am very interested in knowing if they truly exist.

Lee C Stinson
Gauting, GERMANY

[Palmtop Resources is no longer in business. It was taken over by Memory Card Associates, see page 48.]

The Pouch™ for 95LX

Phil Richardson just sent me his special 95LX version of The Pouch. I have tried it out and find it perfect for unobtrusive carrying of the 95LX on the belt. This case really fits the 95LX like a glove – I'm happy!

The Pouch is a small belt pouch made of nylon-faced Neoprene material similar to the material SCUBA wet-suits are made from. The material is a very durable closed cell foam rubber bonded to a thin black spandex material facing both sides. The material is about 3 mm thick overall and provides a bouncy protective enclosure for the 95LX. The construction is very well done and high quality.

A 1.5" wide nylon strap runs over the top of the pouch and secures with a velcro closure. It is so lightweight that I forgot I was wearing the 95LX on my belt. I had to repeatedly reach back and touch it to confirm it was still there.

Also, it is possible to drop a RAM Card and pair of spare AA batteries down in the bottom of the pouch and still fit the 95LX with full coverage. The material is stretchy enough to "forgive" this, and the bottom just shows a slight outpouching when the spare AAs are down there.

I will have to give this product a "10" for ingenious design and execution in a simple belt pouch for the 95LX. I can seriously recommend it without reservation *(price $19.95, for more information see page 35).*

Robert S. Williams
CIS ID: [76167,2773]

On Palmtop Paper ON DISK, Sep/Oct 92.

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BATTman™ and NiMH batteries

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- Palmtop paper, August 1992

"Every combination of BATTman works flawlessly and I never once lost data.."
- Palmtop paper, August 1992

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Lotus Built-in Zoom Scaling

I was reading the "letters" section of the July/Aug Palmtop Paper. In user problem #6 from John Garret in England, the "simple" solution seems to be to use the built-in zoom scaling of the 95LX to "blow up" the screen so the axis labels are readable in Lotus graphs. Just press the blue (+) key to increase the readability of the scales — no need for manual rescaling. The plus (+) and minus (-) keys function to zoom in and out of graphics screens on the 95 whether in Lotus or the Solver.

Lee Buck
New York, NY, USA

Make External Battery for the 95LX

I have fallen in love with my HP 95LX, even though I have barely scratched the surface of its capabilities. It has already replaced my wrist watch, my Day-Timer, my address/phone book, a scratch pad, and (with Gene Dorr's CMCALC.EXM 💾), my programmer's calculator.

However, the battery life is finite, and using an AC adapter is not always convenient. I got the idea to make a small external battery pack. HP Customer Support representative, Michael Johnstone, informed me that the DC power requirement for the 95LX was +/-7.8V minimum, +/-9V nominal, and +/-12 V (175 mA) maximum.

This is ideal for using "square" 9 volt alkaline batteries, and the ability to use voltage of either polarity is wonderful for those of us who are not electrical engineers.

For just a few dollars, I obtained at a local Radio Shack (they are most everywhere) a small plastic box, four 9V battery snap connectors, a little wire, four spring metal 9V battery holders, and a coax-type barrel plug.

Using cyanoacrylate glue ("Super Glue" or "Krazy Glue"), affix the holders to the bottom of the box. One could screw down the battery holders, of course, but cementing them in makes for a neater appearance. Cut a personally convenient length of 24-gauge or better double stranded insulated wire. With a hot nail or drill, poke a whole in one end of the box. I used a nail heated over a gas range to poke the hole because I didn't have a drill, and because melting leaves the hole with smooth edges, which will not fray the wire insulation.

Solder the leads from the snap connectors, IN PARALLEL, to one set of ends of the double wire. Some "clear" silicone rubber sealant works well to insulate the soldered connections. Solder the other ends of the double wire to the coax plug. Use a little more silicone there to avoid any shorting and screw the plug back together. Be sure to put the wire THROUGH the hole in the plastic box BEFORE soldering the leads to one end and the barrel plug to the other! I didn't the first time and had to do it over.

PRESTO! You have a small external battery pack which should power the 95LX for a long time when AC isn't convenient. (I haven't gone long enough to see how long it will last, and I suppose I will have to use a cheap voltmeter to see how the batteries do.) I'm not even particularly handy with a soldering pencil, but I managed. (The toughest part was finding a glue which would fasten the battery holders to the inside of the box, because I didn't want to use screws.)

Paul O. Bartlett
CompuSrv ID: [76625,150]

Be Careful Prying Open the 95LX's Case!

There was an article in the March / April issue

(Continued on page 43.)

💾 *On the 1992 Subscribers Disk.*

Control your TV VCR Stereo with the 95LX

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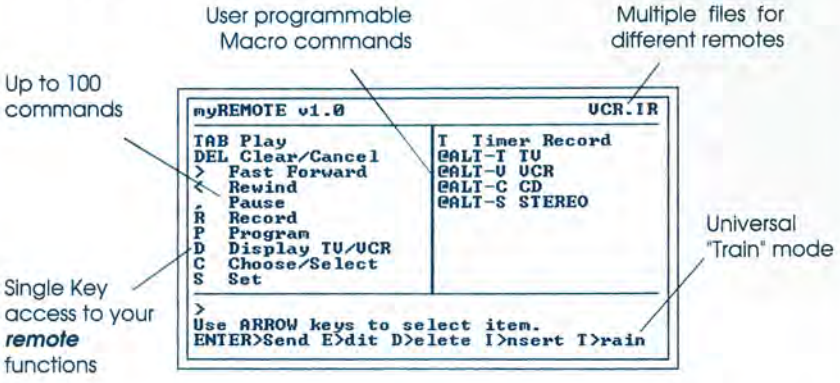
myREMOTE



myREMOTE lets your 95LX replace all of your IR remote controls. The built-in programmable macro commands and time delay control even allow for unattended operations. myREMOTE works with a wide variety of remote components.

myREMOTE Remote Control Software (C1065) $29

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Back row, left to right: Seiko DPU-411, Diconix 180si, Cannon Bubble Jet. Front row: Citizen PN48 and the HP 95LX.

The Canon Bubble Jet 10ex:

The Bubble Jet is an inkjet printer for those who want laser-like output at an affordable 9 cents per page, and don't mind lugging around a 4.6 lb printer the size of a notebook computer. With the addition of an optional sheet feeder, you could even use the Bubble Jet as your primary printer, provided you do not need continuous form capability.

The Bubble Jet comes with a parallel port only and needs a serial-to-parallel adapter to connect to the 95LX.

By Sergio Casanova

After a few trials with the office's Epson printer, I decided I wanted a printer for my desk at home. I compared the quality of the Canon Bubble Jet with the quality of the Kodak (Diconix 180si); I decided on the Canon – a parallel printer.

The BJ-10e weighs 4.6 lbs. (2.09 kg) with battery pack, and measures 12.25 x 8.5 x 1.88 inches (31.12 x 21.59 x 4.78 cm). Although larger than any of the other printers in this article, it's still pretty small (about the size of a notebook computer). The BJ-10e comes with an AC adapter, a connect cable, and one ink cartridge, and lists for $499. The optional NiCad battery pack, good for about 18 pages of printing when fully charged, lists for $50. A replacement ink cartridge costs $25. Battery and ink cartridges should be available from the dealer you purchased the Bubble Jet from.

The Bubble Jet is a quiet printer, providing 360 dpi (dots per inch) resolution on plain bond paper, envelopes, or transparencies. Built-in fonts include Courier and Prestige Elite (if you configure the printer and the 95LX for Proprinter emulation) and Sans Serif, and Roman (if you configure them for Epson LQ-510 emulation). Proprinter and Epson FX-80 emulation are available on the 95LX. Epson technical support said that Epson FX-80 emulation on the 95LX should work for an Epson LQ-510 compatible machine like the Bubble Jet. To access these fonts, you'll have to print from a DOS word processor such as VDE, or from Lotus 1-2-3. This is because MEMO cannot send the necessary control characters to change fonts.

The Bubble Jet only comes with a parallel printer port. Because of this, you must use a serial-to-parallel adapter to connect it to the 95LX. Depending on the serial-to-parallel adapter you use, you may also need one of the pin adapters from the HP Serial Cable Adapter Kit (HP 82224A). (See sidebar, page 8, on serial-to-parallel adapters.)

Bubble Jet Clones

Two other manufacturers use the Canon Bubble Jet engine and case as the basis of their printers:

Printing from the HP 95LX

1. To connect the 95LX to a serial printer: use HP's Serial Interface Cable (HP 82222A) or equivalent. The 4-pin end goes into the 95LX, the 9-pin end connects to the serial port of the printer. You will also need a 9-to-25-pin adapter to connect the 9-pin end of the 95LX serial cable to the 25-pin printer printer port. We used the Printer Adapter from the HP Serial Cable Adapter kit (HP 82224A) to connect the serial cable to the Diconix 180si serial port.

1A. To connect the 95LX to a parallel port printer – most printers do not have serial ports (check your printer manual if you are not sure which type of port your printer has). If you have a parallel printer you need a serial-to-parallel adapter to connect the two (see additional sidebar, page 8, for more information).

2. Configure the 95LX: Press [SET UP] **P**rinter **C**onfig **N**ame and select either the **(Epson FX80)**, **(IBM Proprinter)**, or **(HP LaserJet)**, depending upon which selection your printer emulates (check your printer manual if you're not sure). Make sure your interface is set to **(COM1)**. Make sure the Baud rate on your 95LX is set the same as your printers (usually **9600**).

3. Configure the printer: Printer settings are very standard and you may want to skip this step and come back to it if your print test fails. To configure the printer, make sure the printer's baud rate is the same as the 95LX (9600). Make sure your printer is using the following settings: 8 bits per character, 1 stop bit, no parity, XON/XOFF software handshaking enabled, and hardware handshaking disabled.

4. Turn the printer on: (Off and on again if you've changed settings in point 3 above). Make sure the printer is on line.

5. Test print: Press PRT SC ([<Shift>] [ESC]) to send your current screen to the printer. You may have to take the printer Off Line and press the Form Feed button to eject the page from the printer. If this test works, you're ready to go.

Print Test Fails: Troubleshooting

- Make sure printer is On and On Line.
- Make sure the connection between the 95LX is correct and tight.
- Go back to points 2 & 3. Make sure the 95LX and printer are configured properly.
- 95 Buddy users – see 95Buddy User's Manual to make sure PRT SC ([<Shift>] [ESC])is enabled or test by printing from MEMO.

- **Brother International** markets the **HJ-100i Ink Jet Printer**, virtually identical to the Bubble Jet.
- **Star Micronics** markets the **StarJet SJ-48**. According to a very favorable review in the *Laptop Buyer's Guide & Handbook* (Vol.10, Issue.6), Star Micronics made changes in the firmware and software which improved font handling, paper handling, and print quality. Unfortunately, the 13 additional Bitstream *FaceLift* typefaces included with the StarJet are impossible to use with the 95LX's built-in MEMO program.

Both clones retail for $499 (plus $50 for battery and $25 for additional ink cartridges), the same price as the Bubble Jet. These machines are essentially identical to the Bubble Jet, and require a serial-to-parallel adapter to connect to the 95LX. Since all three are essentially identical printers, check street prices to find the better deal.
NOTE: We have not tested the HJ-100i Ink Jet Printer or the StarJet SJ-48 with the 95LX, but since the hardware is virtually identical to the Bubble Jet, you should be able to connect them to the 95LX via a serial-to-parallel adapter.

Order Information

Cannon Bubble Jet – $499
Includes AC adapter, connect cable, ink cartridge. $50 for rechargeable battery, $25 for additional ink cartridges. Quiet, good print quality. Needs 95LX Serial Cable (HP F1001A or HP 82222A) and Serial-to-Parallel Adapter. Depending on Serial-to-parallel adapter used, may also need the 9-25 pin printer adapter from the HP Serial Cable Adapter Kit (HP 82224A), or the 9-25 pin computer adapter from the HP Connectivity Pack (HP F1001A).
CONTACT: *Canon USA, Inc., One Canon Plaza, Lake Success, NY 11042, USA; Phone: 516-488-6700.*

StarJet SJ-48 – $499
Based on Bubble Jet engine and case. Improved font and paper handling. 13 additional scaleable typefaces. (Not useable from MEMO). $50 for rechargeable battery, $25 for additional ink cartridges.
CONTACT: *Star Micronics, 420 Lexington Ave., Ste. 2702-25, New York, NY 10170, USA; Phone: (212) 986-6770.*

Brother HJ-100i – $499
Virtually identical to the Bubble Jet. $50 for rechargeable battery, $25 for additional ink cartridges.
CONTACT: *Brother International Corp., 200 Cottontail Lane, Somerset, NJ 08875-6714, USA; Phone: 908-356-8880; Fax: 908-469-5167.*

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The Citizen PN48:

The PN48's combination of laser-like output and small size make this 2.6 lb. printer the right choice for on-the-road printing. However, its high operating cost (36 cents/page for the single-strike ribbon), slower operating speeds, and lack of sheet feeder make it a questionable choice as a primary printer.

The PN48 comes with a parallel port only and needs a serial-to-parallel adapter to connect to the 95LX.

By Bob Newins

The Citizen PN48 is a diminutive laser-quality printer, with an optional NiCd battery pack that lets

Print Samples

Diconix 180si
ABCDEFGHIJ abcdefghij 1234567890

Citizen PN48
ABCDEFGHIJ abcdefghij 1234567890

Cannon BubbleJet 10ex
ABCDEFGHIJ abcdefghij 1234567890

Seiko DPU-411 Thermal Printer
ABCDEFGHIJ abcdefghij 1234567890

HP LaserJet
ABCDEFGHIJ abcdefghij 1234567890

Do you really need a printer on the road?

Even the lightest of printers will triple the weight you carry on the road. There are already millions of computers and printers all over the world – in the businesses you visit and in the hotels you stay in. Here are some alternatives to carrying a printer along with you.

1. Postpone all unnecessary printing chores until you get home.
2. Download files, via modem, to your office back home and have your assistant format, print out, and send your correspondence wherever it needs to go. (You'll need to carry a serial cable, 9-25 pin modem adapter, and the modem along with you.)
3. Transfer the file you want printed over to someone else's computer and have them print it out on their printer. (You'll need to carry a serial cable, and file transfer software with you.)
4. Use someone else's printer. (You'll need to carry a serial cable, serial-to-parallel adapter, and the HP adapter kit with you to connect directly to someone else's printer.)
5. Carry a small, portable fax/modem with you and fax the page you want print to a local fax machine (in the hotel lobby or at the business you're visiting). (You'll need the fax/modem, serial cable, and the necessary adapters.)

you print up to 25 pages on a fully charged battery (single pages only, no tractor feed). The 2.5 lb (1.2 kg) printer measures 11.5 x 2 x 3.5 inches (29 x 5 x 9 cm).

The PN48 comes with an AC adapter, connect cable, and one multi-strike ink cartridge. An optional NiCd battery ($95) provides 25 pages of printing when fully charged. Additional print cartridges cost $4.99 apiece. Battery and ink cartridges should be available from your PN48 dealer.

The PN48 can emulate IBM Proprinter, one of the 95LX's printer settings. The PN48 is a thermal-fusion printer that produces 360 dpi near-laser-quality output at 24 cps (characters per second). The PN48 prints letter quality only, no draft option. The PN48 comes with Courier and Times Roman type faces.

The PN48 is more expensive to operate than some printers. A single-strike ribbon costs $4.99, which works out to be about 36 cents per page. The multistrike ribbon, also $4.99, should help to lower per-page costs, but may also decrease print quality as it is reused.

The PN48 is a parallel printer, which makes it necessary to use a serial-to-parallel adapter to connect it to the 95LX. I used the Paralink 3 by Widget, which needs a Citizen cable adapter (part # KB48) to connect to the PN48's proprietary printer cable. The other side of the Paralink 3 connects to the 9-to-25 pin computer adapter that came with the HP Connectivity Kit (HP F1001A). This connects to the Connectivity Kit serial cable, which connects to the 95LX serial port.

The Citizen PN48, with single sheet feed, 36 cents per page output, and a 25 page battery life, is not ideal for volume printing. But if you want laser-quality printing while on the road, this is lightest, least hassle solution around.

Order Information

Citizen PN48 – $469
PN48 Professional, $549, includes carrying case, laser cartridge, and rechargeable NiCd battery pack.

Needs 95LX Serial Cable (HP F1001A or HP 82222A) and Serial-to-Parallel Adapter. Also needs Citizen KB48 adapter to connect proprietary Citizen printer cable to the Serial-to-parallel adapter. Depending on serial-to-parallel adapter used, may also need the 9-25 pin computer adapter from the HP Connectivity Pack (HP F1001A).

CONTACT: *Citizen America Corporation, P.O. Box 4003, Santa Monica, CA 90411, U.S.A.; Phone: 800-477-4683, 310-453-0614; Fax: 310-453-0614*

The Kodak Diconix 180si:

The 180si is a four-pound ink jet printer for those who want letter quality (190 dpi) output at an affordable 12 cents per sheet. The 180si is the only portable printer we found with tractor, as well as sheet feed capability.

The 180si comes in a serial port version, making it simpler to connect to the 95LX.

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By Trevor Cradduck

The new Kodak Diconix 180si printer (successor to the Diconix 150 Plus) is a very satisfactory, lightweight, portable printer.

The package includes the printer, AC adapter, and one inkjet cartridge. Five NiCd C cells will cost you about $15 from Radio Shack. Additional inkjet cartridges run about $19.95. The inkjet cartridges it uses should be available from the dealer you buy the 180si from (the same cartridge as used in the HP ThinkJet portable printer and should also be available from your local HP dealer).

The size is 5.08 x 27.4 x 16.5 cm (2 x 10.8 x 6.5 inches), which means that it can fit into a brief case, although it is a tight fit. It weighs in at 1.3 kg (2.9 lb) without the batteries; the battery brings the weight up to about 1.8 kg (4 lbs). The 180si comes with an external 9V DC power supply.

The print quality, though not comparable to a laser printer, is

Serial-to-Parallel Adapters, Cables, and other Adapters

The HP 95LX comes with serial and infrared data interface ports. Most printers come with parallel interfaces. In order to connect the 95LX to a parallel printer, a device called a Serial-To-Parallel Adapter must be used. These adapters must draw power from some source to operate. The 95LX has precious little energy to spare and does not furnish external devices power through its serial port. Many (but not all) printers can furnish serial-to-parallel adapters enough power to operate. Unfortunately, portable battery-powered printers don't have a lot of energy to spare either, and tend not to be able to power these adapters. This is the case with the Citizen PN48, the Canon Bubble Jet and its clones.

The serial-to-parallel adapters listed here come with an internal battery to provide the power needed to run the adapter. They were designed with the 95LX in mind. They connect between the 95LX and the printer. You may need additional adapters to change gender or to go from 9-pin to 25-pin connectors. Before connecting the 95LX to a printer, make sure both units are switched off. A typical connection might look something like this:

PLEASE NOTE: You may need additional adapters, depending on the printer and serial-to-parallel adapter you use. The Paralink 3 needs the 9-to-25 pin adapter that came with the HP Connectivity Kit (HP F1001A) to connect to the 95LX serial cable. The PN48 printer needs a special adapter to connect its proprietary cable to any of the serial-to-parallel adapters (Citizen Part# KB48). The serial printers don't need a serial-to-parallel adapter, but the Diconix does need a 9-to-25 pin printer adapter (HP Serial Cable Adapter Kit, # HP 82224A), and the Seiko needs the 9-to-25 pin adapter that came with the Connectivity Kit.

HP 95LX Serial Cable Connects to HP 95LX Serial Port
The 9-pin end of the serial cable connects to the serial-to-parallel adapter
This is a sample page of text for a generic printer and if you can read this, you're pretty detail oriented. Keep up the good work and don't forget to dot all of your "i"s and cross all of your "T"s.
The Serial-to-Parallel Adapter Connects to the Printers Parallel Port

ORDER INFORMATION

We know of four battery powered serial-to-parallel adapters available for use with the 95LX:

GA 935 Serial-to-Parallel Adapter **$99**
Uses a 9 volt replaceable battery to give you up to 250 hrs of service. (Manufacturer's estimate, you can use a rechargeable battery but must recharge it outside the unit using your own recharger.) Connects directly to the 9-pin end of the HP Serial Cable on one end and a standard Centronics printer port on the other.

*Greenwich Instruments, 3401 Monroe Road, Charlotte, NC 20205, USA; Phone: **800-476-4070** or **704-376-1021**, Fax: **704-335-8707**.*

Palmprint Serial-to-Parallel Adapter (available Nov 92) **$159**
Comes with an internal battery that can be recharged in 6 hrs by connecting the Palmprint to the 95LX's AC adapter. Fully charged battery gives you 45-60 hrs of use (manufacturer's estimate). Connects directly to the 9-pin end of the HP Serial Cable on one end and a standard Centronics printer port on the other.

*Palmtree Products, 145 Washington Street, Norwell, MA 02061, USA; Phone: **617-871-7050**; Fax: **617-871-6018**.*

Paralink3 Serial-to-Parallel Adapter **£59.95**
(Approx. $115 U.S.) Comes with a replaceable 5.4 volt battery that will give you about 36 hours of printing connected to the Citizen PN48 (user review) and 100 hours when connected to the Canon Bubble Jet (manufacturer's estimate). Leave unconnected to printer when not in use or you will drain the battery. Connects to the 95LX serial cable via the 9-to-25 adapter that came with HP Connectivity Pack. Other end connects directly to a standard Centronics printer port.

*Widget Software, 121 London Road, Knebworth, Herts SG3 6EX, UNITED KINGDOM; Phone: **44-438-815444**, Fax: **44-438-815222**.*

Smart Converter Serial-to-Parallel Adapter ..... **160,000 Lira**
(Approx. $135 U.S.) Uses a standard 9 volt battery (manufacturer does not recommend using rechargeables). Comes with software so it can also be used with the HP 48SX Calculator. One end of the adapter connects directly to the 9-pin end of the HP Serial Cable. The other end terminates in a 25-pin female port that fits into the 25-pin male end of a standard Centronics printer cable.

Distributors in Europe and South Africa. Contact ForCALC below for information.

*ForCALC, Via Varese 67, 41100 Modena, ITALY; Phone: **059/440404**, Fax: **059/304490**.*

CABLES AND OTHER ADAPTERS

HP Connectivity Pack (serial cable, software, adapter) **$99.95**
Part # HP F1001A. Includes serial cable, connectivity software, and one 9-to-25 pin adapter for connection to PC. Available through HP dealers and other vendors. Contact information below.

HP Serial Interface Cable **$35**
Part # HP82222A. Serial cable only for the HP 95LX. Contact information below.

HP Serial Cable Adapter Kit **$15**
Part # HP82224A. Printer and modem adapters for the serial cable of the 95LX. Contact information below.

*Hewlett-Packard Company, 3000 Hanover Street, Palo Alto, CA 94304, USA; for location of nearest dealer in U.S., call **800-443-1254**. International: Contact your local HP sales office.*

Modifying the Bubble Jet to Power a Serial-to-Parallel Adapter

(The HP Palmtop Paper has not verified this procedure. This job is better suited for the technically inclined. Modifications like this can void the manufacturer's warranty, so proceed at YOUR OWN RISK – Rich.)

You need a battery-powered serial-to-parallel adapter with the Canon BJ-10 because the printer does not supply energy to the external converter. This is not because the voltage requirements are too high, but because Canon didn't design the Bubble Jet to do so.

I checked the connections inside the Paralink 3 and discovered that the 5 volts necessary to power Paralink can be supplied from the outside (pin 18 of the parallel connector of the printer). In fact, this pin was *not connected* in the Cannon BJ10.

I opened the case of the Bubble Jet printer and connected the 5 volt lead from the pin connected to the Voltage regulator to pin 18 of the Parallel port. Now, I leave the converter inserted in the printer and use the power from the printer; the battery is preserved for other uses outside my office.

Sergio Casanova

acceptable for a printer of this type (see print sample, previous page). It has four fonts: Prestige 10, Prestige 12, Helvetica and Gothic; each is available in either draft (68 cps) or letter quality (21 cps). The 180si accepts both sheet paper (manual feed) or fan-fold paper (tractor feed). You can also print transparencies, although you need to be careful in your choice of transparency to be sure that it will take the ink. The 180si emulates the Epson FX-85 or the IBM Proprinter, both of which are options on the 95LX. This means that print modes such as superscript, subscript, underline, italic and bold are all possible if you use a word processor that supports those features (MEMO does not). The printing action is very quiet.

The 180si uses 5 NiCd "C" batteries, which are neatly tucked away inside the paper roller. The batteries are recharged by the printer's power supply and the printer can run on either the power supply or the batteries. Kodak says the batteries will give you 50 minutes of printing, but I have not tested this. I assume this would depend on the charge status and "memory" of the Ni-Cd cells. It takes about 10 hours (overnight) to recharge the fully depleted batteries. ("Memory" refers to the fact that Ni-Cd batteries, if repeatedly only partially charged, lose the ability to hold a full charge. The battery will "remember" the level to which you've been charging the batteries and only accept that level of charge in the future.)

The connection to the 95LX is made using the serial cable from the HP Connectivity Pack (HP F1001A) and the 9-to-25 pin Printer adapter that comes with the HP Serial Cable Adapter Kit (HP 82224A). (The printer adapter has a small printer icon on it.)

I paid $399 (Canadian Dollars, the Diconix 180si with serial interface retails for $419 in the USA). This makes the 180si competitive with other portable printers I looked at. The Diconix 180si is a very convenient portable for the 95LX. It definitely beats having to cart an HP Laser IIIP around!

Order Information

Diconix 180si – $419
Includes AC adapter and one ink cartridge, tractor- and sheet-feed capability. Reasonable, but less than laserjet output. Serial port printer not requiring a serial-to-parallel adapter.

Needs 95LX Serial Cable that comes with the HP Connectivity Pack (HP F1001A) or Serial Interface Cable (HP 82222A) and the 9-to-25 pin printer adapter that comes with the HP Serial Cable Adapter Kit (HP 82224A).

CONTACT: *Eastman Kodak Company, Personal Printer Products, 901 Elm Grove Road, Bldg. 14, Rochester, NY 14650, USA.; Phone: 800-344-0006 or 716-724-3592; Fax: 716-726-3108.*

Seiko DPU-411:

This 2-pound, serial-port thermal printer produces draft-quality output on 40 column thermal paper rolls. The DPU-411 could be useful to those who only need to print out short, draft quality notes.

By Rich Hall

We first heard about this printer from Göran Thörnblad, a Swedish subscriber (see page 37, Jan/Feb 92 issue). The DPU-411 is relatively easy to set up, but is not able to signal the 95LX to stop sending data when its printer buffer is full. This means that if you try and print a file larger than about 3 pages (7K), the buffer overflows and the Seiko starts printing garbage. This may not be a problem if you are printing small text files, but Lotus .WK1 and Phone Book (.PBK) files can easily grow to over 7K bytes.

This draft-quality printer comes with an AC adapter and one roll of thermal paper. Additional rolls of thermal paper are available from your Seiko dealer (5 rolls for $13). The DPU-411 comes with a serial port and connects easily to the 95LX using the HP Serial Cable that came with the Connectivity Pack (HP F1001A) and the 9-to-25 pin Modem Adapter that came with the Serial Cable Adapter Kit (HP 82224A). However, because of print buffer problem mentioned above, this printer has limited usefulness for the 95LX.

Order Information

Seiko DPU-411 Printer – $240
Small thermal printer with serial port. Useful for printing draft-quality notes (files 7K or less). Needs HP Serial Cable (HP F1001A or HP 82222A) and the Modem Adapter that comes with the HP Serial Cable Adapter Kit (HP 82224A). (Modem adapter has modem icon on it.) *(Specify 7K memory buffer and battery when ordering.)*

CONTACT: *Seiko Instruments U.S.A. Inc., Electronic Components Division, 2990 W. Lomita Blvd., Torrance, CA 90505 U.S.A.; Phone 310-517-7770; Fax: 310-517-7792.*

Other Printers

The August 1992 issue of *PC Magazine* and Vol.10, Issue 6 of *Computer Buyer's Guide & Handbook* reviewed some additional portable printers. We already mentioned the **Brother HJ-100i** and the **StarJet SJ-48** (based on the Canon Bubble Jet but marketed by different companies). The **DECjet 1000** and the **Kodak Diconix 701** are two 7 lb parallel printers that exceeded the 5 lb weight limit criteria we set. The Diconix 701 was one of *PC Magazine's* Editor's Choice award winners (page 327 of the August 92 issue). It has better print quality than the Diconix 180si and comes with a built-in sheet feeder. We do describe the features of the DECjet 1000 and the Diconix 701 in the Printer Comparison Chart on the next page.

The Toshiba **ExpressWriter 201** was also listed by *PC Magazine*. It is small and slow, with two internal fonts and Epson LQ emulation only. Toshiba has recently gone through a restructuring, and the company representative I spoke with said that the ExpressWriter was being discontinued.

These additional printers have parallel ports only, which means that if they work with the 95LX, you'll need a serial-to-parallel port adapter to connect them. We have not tested any of these additional printers and can make no guarantees that they work with the 95LX, even with a serial-to-parallel adapter. We would welcome feedback on positive experiences you've had with the portable printers you use with your HP 95LX.

Printer Comparison Chart

	Reviewed and tested				Mentioned but not tested			
	Cannon BJ-10e	**Citizen PN48**	**Diconix 180si (w serial port)**	**Seiko DPU-411**	**Brother HJ-100i**	**Star Micronics StarJet SJ-48**	**DECjet 1000**	**Diconix 701**
Operational Costs								
Retail price	$499	$469	$419	$240	$499	$499	$329	$549
Battery price	$50	$95	5 NiCds – $15 C Cells	Included	$50	$50	N.A.	NP-55 Camcorder Pack $50
Ink Cartridge Price/Cost per page	$25 / 9¢	$4.99 / 36¢	$19.95 / 12¢	5 rolls thermal paper, $13	$25 / 9¢	$25 / 9¢	$50 / 10¢	$29.95 / 8¢
Serial-to-Parallel adapter needed (*Less expensive non-battery powered serial-to-parallel adapters are available.)	Yes, $100-150*	Yes, $100-150*	No	No	Yes, $100-150*	Yes, $100-150*	Yes, $100-150*	Yes, $100-150*
Other Cables and adapters needed; Serial cable = HP Serial Cable, comes in HP F1001A Connectivity Pack or HP 82222A Serial Cable. C = 9-to-25 pin "computer" adapter (HP Connectivity Kit). P = Printer adapter, M = Modem adapter (both from HP 82224A Adapter Kit).	Serial cable C (w Paralink3)	Serial cable Citizen #KB48 cable adapter C (w Paralink3)	Serial cable P	Serial cable M	Serial Cable C (w Paralink3)	Serial cable C (w Paralink3)	Serial cable C (w Paralink3)	Serial cable C (w Paralink3)
Options Available								
Sheet feeder	$90	N.A.	N.A.	N.A.	$90	$90	$99	N.A.
Carrying Case	$59.95	$29	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
220V Adapter/Charger	$50	$79	$28	N.A.	N.A.	N.A.	N.A.	$29.95
Car lighter adapter	N.A.	$59	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Physical Description								
Printer Interface	Parallel	Parallel	Serial	Serial	Parallel	Parallel	Parallel	Parallel
Included in package with printer (in addition to manuals)	AC adapter, connect cable, 1 ink cartridge	AC adapter, connect cable, 1 ink cartridge	AC adapter, 1 ink cartridge	AC adapter, 1 roll of thermal paper	AC adapter, connect cable, 1 ink cartridge	AC adapter, connect cable, 1 ink cartridge	1 ink cartridge	AC adapter, built-in sheet feeder, 1 ink cartridge
Size of printer (inches / cm)	1.9x 12.2x 8.5 4.8x 31x 21.6	2x 11.7x 3.5 5x 29.7x 8.9	2x 10.8x 6.5 5x 27.4x 16.5	6.4x 9.5x 2.3 16.3x 24.1x 5.8	1.9x 12.2x 8.5 4.8x 31x 21.6	1.9x 12.2x 8.5 4.8x 31x 21.6	4.5x 13.5x 8 11.4x 34.3x 20.3	2.4x 11.7x 7.7 6.1x 29.7x 19.6
Weight of printer (with battery, in lbs / kg)	4.6 / 2.1	2.6 / 1.2	2.9 / 1.3	2.0 / 0.9	4.6 / 2.1	4.6 / 2.1	6.4 / 2.9	7.0 / 3.2
Paper Used (Continuous roll, Sheet, Envelope, Transparecy)	S, E, T	S, E, T	C, S, E, T	C (4.5" roll)	S, E, T	S, E, T	S, E, T	S, E, T
Fonts included (Courier, Gothic, Prestige Elite, Sans serif, Times Roman, Times Nordic)	C, E, S, T	C, T	G, E, S	C	C, E, S, T	C, E, S, T	C, G, E, N	C, G, S
Performance								
Print Quality (highest available) (Laser = 300dpi, Letter = 190 dpt, Draft)	Laser	Laser	LETTER	DRAFT	Laser	Laser	Laser	Laser
Print speed (on highest print quality, characters per inch)	39 cpi	24 cpi	21 cpi	37 cpi	42 cpi	40 cpi	49 cpi	48 cpi
Time to fully charge batteries	10 hr	6 hr	10 hr	10 hr	10 hr	10 hr	N.A.	4.5 hr
Pages printed on charged batteries	18	25	25	1,500 lines	18	18	N.A.	100
Warranty	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months

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Two Useful HP 95LX Peripherals

Contributing writer David Hayden takes a look at Sparcom's Station95 (a docking station) and Drive95 (an external floppy drive).

By David Hayden
with Rich Hall

While the HP 95LX is a powerful palmtop computer, a number of products have been developed which add a new level of power and convenience to the Palmtop PC. Let's take a look at two of them.

Station95

Sparcom's Station95 is a docking station. All you do is slide your 95LX into the compact, black Station95 unit sitting on your desk and your connected to an AC adapter and linked to your desktop PC via serial cable.

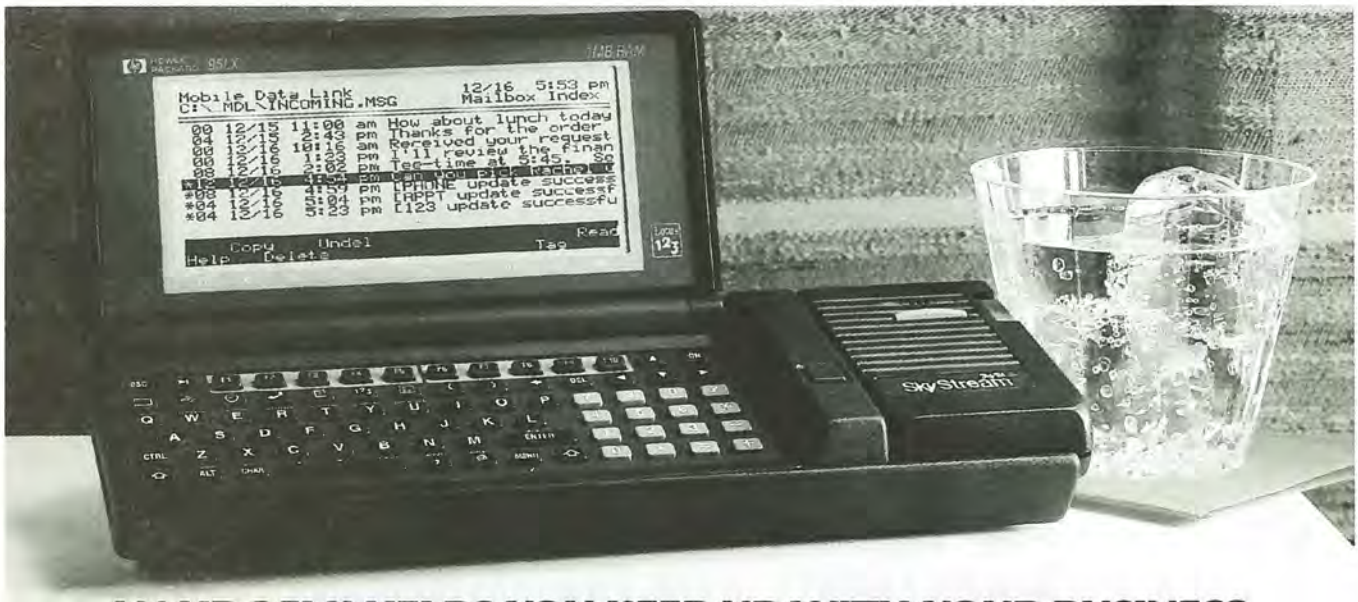
Station95 docking station

Station95 should be particularly useful to those who use their 95LX at a desk, and who come and go a lot (i.e. for those who need to connect and disconnect their 95LX often).

Station95 retails for $59.95. That's not very expensive, especially when you consider that a serial cable and AC adapter comes with the unit (an HP Serial Cable and AC Adapter would cost you $50).

If you already have a serial cable and AC adapter, Station95 may seem a bit redundant, especially if you don't connect and disconnect that often. But the mere fact that it's there on your desk, so easy to connect to, tends to encourage its use. I use it all the time and the money I save on batteries should quickly pay for Station95.

Station95 is a very lightweight hollow black box about 1.5" tall, 8" long, and 4.5" deep (3.8 x 20.3 x 11.4 cm). It has a memory card slot in the left-hand side, but there is no RAM card drive in Station95 at this time. It appears that Station95 was designed so that it would be easy to add one in some future version. Sparcom confirmed that they are considering adding a card drive, or even a hard disk drive to Station95, but emphasized that it was only a possibility at this time.



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SkyTel A subsidiary of Mtel

Order Information

Station95 – $59.95
Docking station that makes it easier to link your 95LX to your desktop PC and your AC adapter.
CONTACT: *Sparcom Corp., 897 NW Grant Avenue, Corvallis, OR 97330, USA; Phone: 800-827-8416 or 503-757-8416; Fax: 503-753-7821.*

Drive95

This 3.5" floppy disk drive is also from Sparcom. It connects to the 95LX via serial cable and accepts DOS formatted 720K or 1.44MB disks. With Drive95 attached to your 95LX, you can read from or write to a floppy disk, or run a program from the floppy disk.

Drive95 Floppy Disk Drive

Drive95 is battery powered and runs 10-15 hours on a single charge. It also operates off of an AC adapter, which is included along with a serial cable and software.

Because Drive95 connects via serial port, data transfer will be a bit slow. (It took Peder Sweeney, *HP Palmtop Paper* Marketing Manager, 11 minutes to back up the files from his 1MB 95LX onto a floppy disk via Drive95.) This is not a fault with Drive95, it's just the nature of the serial port (Drive95 uses Kermit). On the positive side, Peder mentioned that Drive95 works at any angle (upside down, sideways, etc.). Although he did not test this, he thought it would be possible to back up the 95LX without any problems, while it and Drive95 were "clunking" around in his briefcase.

To make Drive95 work with the 95LX, you must first copy the file DRIVE95.SYS from the 3.5" floppy disk that comes with Drive95 onto the C drive of your 95LX, and then install it on the Palmtop. This "device driver" software tells the 95LX how to work with Drive95.

Follow the instructions on page 1-4 of the *Drive95 User's Manual* to copy DRIVE95.SYS over to the root directory of the 95LX (C:\). Then use MEMO to modify your 95LX's CONFIG.SYS file, found in the root directory of the C drive. Add the following line to the end of your CONFIG.SYS file (be sure to press ENTER after you type in the line):

```
DEVICE=DRIVE95.SYS
```

If you don't have a CONFIG.SYS file, you can copy over the one found on Drive95's software disk, or create a new CONFIG.SYS file containing the above line.

While Drive95 is a useful addition to the 95LX, there are some things you should be aware of. Drive95 (size 7" x 5" x 2") is bulky compared to the 95LX, and this makes traveling with Drive95 less than optimal. Also, as mentioned, Drive95 connects via the serial port, and serial port data transfer can seem a bit slow at times.

Another problem (more an annoyance) is that when you disconnect Drive95, it seems that some of the built-in applications load more slowly. I assume this is because you still have the device driver loaded and the 95LX spends some time looking for Drive95 before starting the application. I found that it took 2 to 3 times longer to start some applications.

Drive95 works with the 95LX, an HP 48SX calculator, or an IBM-compatible personal computer.

[David Hayden is the Product Manager of Palmtop Applications for Lucid Corporation of Dallas, Texas, USA.]

Order Information

Drive95 – $329.95
External 3.5" floppy drive that connects to the 95LX serial port.
CONTACT: *Sparcom Corp., 897 NW Grant Avenue, Corvallis, OR 97330, USA; Phone: 800-827-8416 or 503-757-8416; Fax: 503-753-7821.*

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New! HP 95LX Technical Help Service

Call or fax us your problems — we'll call back with the answers!

Robert Roney, Director of our ASK THADDEUS! Technical Help Service

Need help using your HP 95LX? You're not alone.

Each week, we at Thaddeus Computing get dozens of requests for technical assistance on the HP 95LX. (We're the publishers of *The HP Palmtop Paper*, and recognized experts on the 95LX.)

In response to these requests, we are pleased to introduce ASK THADDEUS! Technical Help Service. It's a fast, efficient, and economical way to solve your HP 95LX problems!

HERE'S HOW IT WORKS

1. Photocopy the Technical Help Request Form below. Save the blank original for future use.

2. Fill in the information as directed. Be *concise but complete.* If we have complete information, we will do any necessary research in advance. (This research will be done off-line, at no cost to you.)

3. Get the information to us by one of the following methods:

a. FAX it to: 515-472-9595.

b. Or MAIL it to:
ASK THADDEUS!
P.O. Box 869
Fairfield, IA 52556 USA
If you mail your form, please keep a copy for yourself.

c. Or CALL: 515-HP ASK TH (515-472-7584). You will reach an answering machine that will direct you to read the information asked for on the form.

4. A trained ASK THADDEUS! specialist will respond by phone to discuss the problem and possible solutions. *As requested on the form, be sure to list 3 alternative times we may call you.*

5. IMPORTANT: Our ASK THADDEUS! specialist may ask you to try one or more possible solutions over the phone. For this reason, be sure to check your batteries and back up all your files before the call.

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Note: We will deduct $7.00 from the cost of this service for any inquiries about installation of your Subscribers Disk.

ASK THADDEUS! Technical Help Request Form

To: ASK THADDEUS! FAX: (515) 472-9595 ANSWERING MACHINE: (515) 472-7584

From (Your Name): _____ Country or U.S. State _____ Page 1 of _____

Daytime phone no.: (_____) _____

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Best times to call you:

Please list several hours on each of 3 weekdays. We can call you between 9:00am and 5:00pm US Central Time (GMT 6 West, referred to as -6 GMT on your HP 95LX).

1. Date:_____ Times:_____
2. Date:_____ Times:_____
3. Date:_____ Times:_____

Type of credit card: ☐ Mastercard ☐ VISA

Credit card no.: _____

Exp date: _____

Cardholder signature:

_____

PLEASE ANSWER ALL QUESTIONS:

1. About your HP 95LX:

a. Purchased from: _____

b. Amount of memory: ☐ 512K ☐ 1 Meg

c. Do you have a RAM card? ☐ Yes ☐ No

d. Do you have an external disk drive? ☐ Yes ☐ No

e. Subscribers Disk successfully installed? ☐ Yes ☐ No

2. About yourself: (Circle one) Novice Intermediate user Advanced user

3. Do you use an IBM PC? ☐ Yes ☐ No

If Yes, circle ALL the following items that you have:

Desktop Portable 286 386 486 HP Connectivity Pack

4. Do you use a Macintosh? ☐ Yes ☐ No

If Yes, circle ALL the following items that you have:

MacPlus SE Mac II Mac Portable Connectivity software

5. Do you subscribe to The HP Palmtop Paper? ☐ Yes ☐ No

If "No," please fill out the following:

Profession: _____

Company: _____

Address: _____

City: _____

State _____ Zip: _____

Country: _____

6. Describe your problem IN DETAIL on separate page(s).

Include symptoms and any recent changes you've made in your system.

Fax, call, or mail the above information to us as instructed in this ad. We look forward to helping you!

ASK THADDEUS!
P.O. Box 869, Fairfield, IA 52556 USA

PLEASE NOTE: The ASK THADDEUS! Technical Help Service is designed to help you get the most out of your HP 95LX Palmtop PC. The information we provide is advisory only and is correct to the best of our knowledge. Thaddeus Computing, Inc. is not responsible for any loss of data, time, or money, or for any expense whatsoever resulting from the use or implementation of our services. Any outcomes from use or non-use of our suggestions are the sole responsibility of the recipient.

You've read it in print — now get it on disk!

The HP Palmtop Paper ON DISK: *5 great benefits even the printed version doesn't have!*

Now you can receive *The HP Palmtop Paper ON DISK* with every printed issue. Here are the benefits:

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Each issue of *The HP Palmtop Paper ON DISK* contains the *entire editorial content* of the corresponding printed issue. The text is stored in ASCII format, and is readable by any word processor.

To locate an item of interest, just do an automated search for any keyword. The information you're looking for will appear on your screen instantly.

But fast access to items of interest is only the beginning, because you also get:

2. Access to almost every freeware and shareware program mentioned in the printed issue

That's right — virtually every freeware and shareware program mentioned in each printed issue is included in the corresponding *HP Palmtop Paper ON DISK*, along with documentation.

These programs are useful! Many of them have been written or specially adapted just for the HP 95LX.

To give you an idea just how useful these programs can be, we've summarized the contents of recent issues — see box at right.

Please note:

1. If you decide to use a shareware program, you are required to pay the shareware author his fee. Fees usually range from $5 to $45 — a fraction of the cost of equivalent commercial programs.
2. We are unable to support you in using *The HP Palmtop Paper ON DISK* software.

3. Saves you time and money

Dozens of man-hours go into collecting, organizing, modifying, and documenting the programs in each *HP Palmtop Paper ON DISK*. Having the disks saves you the time and expense of doing all this work yourself.

4. In-depth descriptions of advertised products

Each issue of *The HP Palmtop Paper ON DISK* also includes detailed descriptions of some of the products advertised or listed in the printed issue. This helps you learn more about products of interest without having to call the manufacturer.

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The HP Palmtop Paper ON DISK consists of 2-4 360K floppy disks that you will receive along with each printed issue of your regular subscription to the newsletter. (*The HP Palmtop Paper ON DISK* does not include printed issues.).

A year's subscription to *The HP Palmtop Paper ON DISK* (6 issues) is just $139. Shipping is included for North American customers.

That's less than $24 per set of disks. *It's a great buy even if you only use one program per disk!*

Individual issues of *The HP Palmtop Paper ON DISK* are $33 within North America, so a year's subscription saves you $92. ~~$78~~

You can save an additional ~~$10~~ by subscribing for two years for ~~$259~~. $199

Satisfaction guaranteed!

Should you ever become dissatisfied with *The HP Palmtop Paper ON DISK*, just let us know. The unused portion of your payment will be promptly refunded.

FREE BONUS!

Each 1992 subscription to *The HP Palmtop Paper ON DISK* includes Issue #1 (Fall 1991) — absolutely FREE!

If you have already purchased Issue #1, you may deduct $33 from the price of your 1-year or 2-year subscription. (Outside U.S. and Canada, deduct $38.)

Customers outside North America:

Please add $30 shipping for a one-year subscription, $60 for two years. Add $5 shipping for each issue ordered individually. You may pay by credit card, check, or money order. Check or money order must be in U.S. dollars drawn on a U.S. bank.

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TREMENDOUS VALUE!

Each issue of The HP Palmtop Paper ON DISK contains the complete editorial content of the printed issue, descriptions of advertised products, and virtually all the freeware and shareware mentioned in the issue.

To give you an idea of the tremendous value this represents, here are just a few of the highlights of the software included in recent issues of The HP Palmtop Paper ON DISK:

Instructions and utilities for accessing all programs are included on each disk.

WORD PROCESSING

VDE: Compact, powerful text editor — a great alternative to MEMO.

VDE-LX.ZIP: Makes VDE work like WordPerfect.

COMMUNICATIONS

COMMO.ZIP: Full-featured communications program — richer scripting language than the 95LX's built-in program — easier to automate your activities.

UTILITIES

95BUDDY: Lets you launch an application by selecting its data file in FILER, change default directories, and more.

OUTLINE PLUS: Outliner and text editor.

LOADMAKER: Run EXE, COM, or BAT files while in a built-in application.

FINISH ZIP: Completes word after you type first few letters.

ATO: Automates CompuServe activities. Allows you to perform functions off-line, saving you line charges.

GAMES / ENTERTAINMENT

AG.ZIP: Chess and Space Invaders (good graphics).

KLONDIKE: 7 pile game of Klondike Solitaire

DIVDSK: Checkers, Go-Moku, Tetris, Othello, Mastermind, Adventure, and 9 other games. Enjoy!

MUS95 & SNDPLAY: Music, quotes, sounds on the 95LX.

Plus travel organizer, language compilers, screen printing utilities, other games, and lots more! (See Issue #0, p.36, Issue #1 p.43, Issue #2 p.44, Issue #3, p.48, Issue #4, p.48, and Issue #5, p.52 for complete listings.)

HOW DOES IT COMPARE WITH THE SUBSCRIBER DISK?

The HP Palmtop Paper ON DISK is not to be confused with the Subscriber Disk that you receive free in June with each year's subscription to The HP Palmtop Paper.

The annual Subscriber Disk is one or two 360K floppies containing some of the best freeware for the HP 95LX (no shareware).

Creating Customized Cables For The HP 95LX

An HP 95LX user adds an RJ-11 phone connector to the HP Serial Cable to better fit his connectivity needs.

Phone Jacks add Flexibility

[This information is provided for you to use at YOUR OWN RISK! The procedure described involves modifying the HP serial cable (HP 2222A, also comes with the HP Connectivity Pack – HP F1001A).]

By F.P. Nagle
CompuServe ID: [71140,1253]

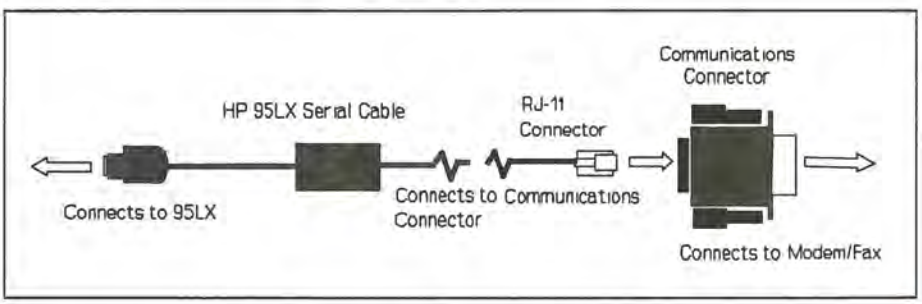
Because of the size and length of the HP serial cable and the need for a multitude of adapters (9-to-25, 25-to-9, male-to-male, female-to-female, null modem, etc...), I quickly decided that there must be a better way to solve the connectivity puzzle.

I cut the 9-pin end off the HP cable the 2nd night I had it! The HP cable had three wires (Red/White/Yellow) and a ground wrap-wire wrapped around the others used to shield them from interference and act as a ground wire. (You can purchase an "Unterminated" 95LX serial cable, with the end already "cut off," from EduCALC for $12.95. See Order Information box, next page.)

I used a continuity checker to determine which signals were connected to which wires and then connected it to a four-prong RJ-11 modular phone adapter on the cut end of the HP cable. I then connected the new modular end of the HP cable to a 9-pin communications connector (RJ-11 to male 9-pin adapter) and attached it to a Macronix Fax/Modem. I was operational! I also have an RJ-11 to 25-pin male adapter for use with a Practical Peripherals Pocket Modem.

In the months I've been using this set up I've encountered no problems connecting to my home/office PC (386/33 megahertz IBM clone), a notebook PC, and various modems. I've successfully connected to a Macronix Fax/Modem. I've also connected to the Practical Peripherals, Inc. Pocket Modem (PPI/ PM) using a non-approved modification to the PPI battery pack.

If you feel comfortable with a few cut wires, it really isn't a large task to accomplish the above. (More information on modem modification can be found in PM2400.95 or TINYMO.95, two text files in Library 6 of the HP Handheld forum of CompuServe. Modification of the GVC Mini Modem is described in GVCMOD.95 and on page 2 of the Fall, 1991 issue of *The HP Palmtop Paper*.)



HP 95LX Serial Cable modified with RJ-11 jack to connected to Modem

Creating a Cable to Connect to a Modem or PC

Every piece of hardware with a serial port needs the following minimum configuration in order to send and receive data: A wire for transmitting data; a wire for receiving data; and a third wire for ground to establish a marking point for positive and negative signals. The HP serial cable has a white transmit data wire, a yellow receive data wire, and a red ground wire.

Different modems have different types of serial ports; either a 9-pin or 25-pin male or female port. The HP 95LX Serial Cable already has a 9-pin female connector on one end, with the white transmit wire connect to pin 3, the yellow receive wire to pin 2, and the red ground wire connected to pin 7.

If you wanted to make a custom cable for your modem, you would have to cut that off and attach the appropriate serial connector to that end. If you were to attach a 9-pin male connector, you would attach the wires to the same pins as with the female 9-pin connector. If you were to attach the cable to a 25-pin RS-232 connector, you would solder the white transmit wire to pin 2, the yellow receive wire to pin 3 and the red ground wire to pin 7. (Don't confuse the insulated wires with the ground wrap, an uninsulated copper wire in the cable.)

Use the above instructions if you want to construct a cable to connect the 95LX to a MODEM. If you want a custom cable to connect the 95LX to another PC, you'll need to reverse the wires connected to pins 2 and 3, on both the 25-pin, or 9-pin connector.

You reverse wires when connecting to a PC because you want to connect the Transmit data pin of one computer to the Receive data pin on the second computer. When you send your message through a modem, the phone company conveniently crosses the send and receive data through its network. This is necessary even for normal phone

On The HP Palmtop Paper on Disk, Sep/Oct 92. GVCMOD.95 on the Fall 91 issue.

communication so that your voice, which is transmitted from the mouthpiece on one end, is HEARD on the earpiece on the other side! When you connect to a local PC you have to cross these wires yourself!

I hope this gives you the necessary information to go forward, but once again, BEWARE! DO THIS AT YOUR OWN RISK! You may invalidate your warranty on any products you may connect to this modified cable.

[Frank Nagle is MIS/Telecommunications Manager for Micro Linear, a semi-conductor manufacturer in San Jose, California, USA. He is responsible for DEC VAX 6310 equipment, Rolm phone switch, and a multitude of office PCs. He uses his 95LX for appointment scheduling, taking job-related notes, writing memos, communicating with the office and CompuServe, and data-communications trouble shooting.]

Order Information

Adapters/Connectors/Cables

4-prong RJ-11 Phone Connector
(package of 10)
Retail (approx.) ..... $1.50-$3.00
25-pin Male Serial Connector
25-pin Female Serial Connector
9-pin Male Serial Connector
Retail each (approx.) . $1.00-$2.00
Contact: *Check a local electronics store or electronics catalog for these parts. Prices are in U.S. currency and will vary.*

Unterminated 95LX Serial Cable
4-pin 95LX plug on one end, bare wires on the other end.
Retail $12.95
Contact: *EduCALC, 27953 Cabot Road, Laguna Niguel, CA 92677, USA; Phone: 800-677-7001 or 714-582-2637; Fax: 714-582-1445.*

Modems

Macronix Fax/Modem 9600/9600
Retail $399
Contact: *Macronix, 1344 Ridder Park Drive, San Jose, CA 95131, USA; Phone: 408-453-8088; Fax: 408-453-8488.*

Pocket Modem (PPI/MI)
Available in USA and Canada only.
Retail $159
Contact: *Practical Peripherals, 375 Conejo Ridge Ave., Thousands Oaks, CA 91361, USA; Phone 800-442-4774 or 805-497-*

DOS CONNECTION: *Stacker*

Stacker File Compression Software and the ACE DoubleCard 2.0

Install Stac Electronic's Stacker and you can double the storage capacity of your RAM Card. The ACE DoubleCard is a RAM card that comes with a pre-installed, ready-to-go version of Stacker for the 95LX. The DoubleCard also lets you compress your 95LX's C drive. ACE also offers DoubleCard 2.0 Software that easily turns your existing RAM card into a DoubleCard.

By Mark Scardina

Data compression software has been around for some time. Programs like DIET, PKLITE, and PKZIP have been used by programmers and novices alike to reduce the size of files in order for them to take up less space on floppy or hard drive. Files also take up less time transmitting over expensive communications systems. Saving file storage space is an especially important topic among 95LX owners.

This month we will look at **Stacker 2.0**, the most popular compression product for the PC market. Stacker burst on the scene a few short years ago and quickly set the standard for hassle-free data compression. With version 2.0's ability to be used on removable disks, use on the 95LX finally became possible.

Using Stacker

Stacker 2.0 can only be used on the 95LX's RAM card (and, of course, your PC's hard disk). Its installation on the 95LX requires following a very specific procedure presented in the accompanying sidebar. Once Stacker is installed and "mounted," it becomes transparent (more on "mounting" Stacker below). The user simply saves a file to, or retrieves it from the "Stac'd" RAM card and Stacker takes care of the rest. Typical users can effectively double their RAM card space with no discernible performance penalty.

DIET on the 92 Subscribers Disk.
On The HP Palmtop Paper on Disk
PKLITE (PKL103.ZIP) on the Jan/Feb 92 issue.
PKZIP (PKZ110.EXE) on the Mar/Apr 92 issue.

Stacker is loaded before any other programs are run. It uses about 45K of System memory to perform its file compression duties. While this is higher than DIET (see page 18, Fall 91 issue), Stacker does not require any space for temporary files. Once Stacker is set up, it automatically compresses files saved to the RAM card, whether you're working in DOS or in the built-in applications.

"Mounting" Stacker

Stacker creates one huge file on your RAM card. It then fools DOS into thinking that this file is a separate disk drive, allowing you to save files to and retrieve files from it. In reality, your RAM card will have two files on it: STACVOL.DSK (the huge file mentioned above) and STACKER.COM (the Stacker program that "fools" the 95LX into thinking STACVOL.DSK is a separate disk drive). STACVOL.DSK is a "hidden file" that doesn't show up in Filer or with the DOS DIRectory command.

You must "mount" Stacker in order to have the 95LX "see" STACVOL.DSK as a drive. This is done by executing the following command from the DOS prompt:

```
stacker a:
```

This command can be placed in your AUTOEXEC.BAT file so that every time you reboot the 95LX, Stacker is mounted. NOTE: You must remount Stacker after inserting each additional RAM card.

Once your card is mounted, you can view the contents of STACVOL.DSK as a normal looking disk drive

file structure. From FILER press [F5] (GoTo) **A:** [ENTER]. If you have uncompressed files on your RAM card (i.e. files in addition to STACKER.COM and STACVOL.DSK) you can view these by pressing [F5] **B:** [ENTER].

Compression Effectiveness

Different file types cannot be compressed equally. Executable files such as .COM and .EXE files have compression ratios that range from 1.5:1 to 1.8:1. (For example, a ratio of 1.5:1 means a 15K file would be compressed to 10K.) Lotus .WK1 files range from 3:1 to 8:1. These variations make the exact determination of space remaining in your Stacker drive impossible.

When the drive is first created, Stacker is optimistically told to anticipate an average compression ratio of 3:1. This is higher than most people get, but it insures that there are a large number of entries in Stacker's file table in case someone happens to keep a large number of small files on their card. If you have a 1MB card, you can test this by running **chkdsk a:** from the DOS prompt. It will report that you have 3MB of free space. Again, this is based on an overly optimistic compression ratio. Don't believe it, and do not use Chkdsk on a Stac'd RAM card again for checking free space. Stacker provides SCHECK.EXE for this purpose.

Stacker Gives Approximations of Storage Space Remaining

Once you start saving files onto your Stac'd RAM card, you may observe some unusual reports by the DOS DIRectory command, or FILER's [MENU] **D**irectory **S**tatus command. Your "bytes remaining on disk" figure may decrease in increments not directly related to the size of the file stored. It may even go up when you add a file and down when deleting one!

These unusual reports are due to the fact that Stacker can only guess the compressibility of files you have not yet stored. It does this by looking at the average compression ratio of files already stored and using that figure to compute an anticipated free space figure. If you only have a few files on your disk, adding or deleting a file can have a major impact on the "average" compression ratio, and thus the space available report. For example, you could reduce the "bytes free" some 200K by storing a 50K file that had low compressibility. More surprising, you could store a highly compressible worksheet and actually increase the "bytes free" report. Stacker does provide a utility called SDIR.EXE, which reports the compression ratio of each file. However, the bottom line is that you will never know precisely the amount of remaining disk space until you actually use it. While this may appear as a dilemma, let me outline a strategy that I have used successfully for the last 8 months.

File Storage Strategy / When to Use Stacker

The first point to remember is that data files, your most irreplaceable files, are also your most compressible. Since the A drive is much safer than the C drive, it makes sense to use the A drive for your data storage. This maximizes RAM card use while affording the greatest level of protection. Secondly, remember that executable files are easily replaced and have the least compressibility. Therefore, placing as many as possible on C drive makes the most sense. This is where DIET or PKLITE can be used in stand-alone form to compress your COM and EXE files before placing them on C drive. Finally, you should not overly concern yourself with the reported free space until you are within 100K of your remaining disk space. At this point the space left will be more closely approximated by the DIRectory and File Status reports described above. Do not try to save files to your very last byte. Stacker keeps an 8K buffer in case you alter a file that it previously had stored.

Stacker's operation is internally complex in order that it may be transparent to you. In my opinion, the decision on whether to use it is based on two factors: The size of your RAM card and the type of files you store on it. Since Stacker requires that you have STACKER.COM (44K) on the RAM card, it doesn't make sense to me to use it on 128K or 256K cards. You can use DIET version 1.4 to further reduce the size of STACKER.COM to about 30K. This would leave 482K available for your Stac'd drive on a 512K card. I recommend against keeping STACKER.COM on the 95LX's C drive. If STACKER.COM gets corrupted, which is always possible on the C drive, you will lose access to your A drive until you can download a fresh copy of STACKER.COM. The small savings in disk space is not worth it.

Stacker is a good choice on 1MB or greater cards. On 512K cards it's

Installing Stacker 2.0 on the A Drive (RAM Card)

1. With MEMO, create or edit a file named C:\CONFIG.SYS. Add the following lines to the file (remember the space before each "/"):

   ```
   DEVICE=A:\STACKER.COM /M=0 @
   SHELL=C:\COMMAND.COM /P
   ```

2. With MEMO, create or edit a file named C:\AUTOEXEC.BAT. Add the following lines:

   ```
   ECHO OFF
   PROMPT $P$G
   PATH=C:\;C:\_DAT;A:\
   A:\STACKER.COM A:
   ECHO Press CTRL-C to go to DOS
   ECHO Press any key to go to SYSMGR
   PAUSE>NUL
   $SYSMGR
   ```

3. Temporarily clear enough space on your 95LX's C drive to have 105K free with at least 300K of system RAM.
4. Copy from your PC to C:\ the following Stacker 2.0 files: SCREATE.COM, SCREXEC.EXE, SCREXEC2.EXE.
5. Back up all of your A drive files and then format the RAM card by pressing [<Shift>] [FILER] Format [ENTER].
6. Copy the Stacker 2.0 file STACKER.COM to your A drive.
7. Press [CTRL]-[ALT]-[DEL] to reboot. At the prompt press [CTRL]-**C** and **Y** to go to the DOS prompt.
8. Enter **SCREATE A: /r=3 /c=4** to create Stacker's hidden disk file on your RAM card. A message will appear indicating success.
9. Press [CTRL]-[ALT]-[DEL] to reboot and go to SYSMGR and you will now have a Stacked A drive.

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Nashua, NH 03062
Tel: (603) 888-0666
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a good choice as long as you don't store too many executable files on the card. A 50:50 mix of data and executable files will probably deliver good performance.

A COM or EXE file can be compressed an additional 10% of its original size by using DIET to compress the file prior to saving it on a Stac'd A drive. For example, an 80K file saved to a Stac'd disk takes up 60K of disk space. If you DIET the file first and then save it to your Stac'd disk, it takes up only 52K. This is 8K less than if the file were only Stac'd (10% of the original file size of 80K). Stacker reports compression of DIETed files as having a 1:1 compression ratio. Because of this, your average ratio, and therefore "space remaining," is reduced.

ACE DoubleCard 2.0 and DoubleCard 2.0 Software

Stacker 2.0 has two drawbacks. First of all, you can't use it for files on C drive. Second of all, it must be "mounted" (i.e. you must go to DOS and enter **stacker a:**) every time a different Memory card is used. ACE Technologies recently released the DoubleCard 2.0, a RAM card with a proprietary version of Stacker that "auto-mounts" whenever the card is inserted. In addition, DoubleCard 2.0 comes with a program that lets you Stac the C drive and password protect the RAM card.

ACE has also released the DoubleCard 2.0 Software to turn existing RAM cards into DoubleCards and allow users to create Stac'd C drives.

The DoubleCard comes in four sizes, 1MB, 2MB, 3MB, and 4MB. These are the effective file storage sizes. Their physical size is half their stated size. Simply insert the DoubleCard, reboot your 95LX, and you have a Stac'd A drive.

A DoubleCard puts files you don't want to compress on the "B" drive, a non-Stac'd portion of the RAM card. Of particular note: The CONFIG.SYS file resides on the unStac'd B drive, while the AUTOEXEC.BAT file must be placed in the Stac'd A drive. Any program called from the CONFIG.SYS must also reside on the B or C drives.

The inquisitive among you may wonder about the unusual locations of the startup files. When the 95LX is booted up, DOS first goes to the un-Stac'd A drive and finds the CONFIG.SYS file. It loads the programs into memory and goes to the C drive to launch COMMAND.COM. When Stacker comes back to look for your AUTOEXEC.BAT file, it has already "auto-mounted," so the HP 95LX finds and executes your AUTOEXEC.BAT file in the Stac'd portion of the RAM card on the A drive. UnStac'd files on the RAM card, such as CONFIG.SYS, are now found on the B drive.

If you frequently reboot without a card, you can keep a second set of startup files on C:\, which will only be read if a card is not present when you reboot.

Creating a Stac'd C drive (or a Stac'd A drive if you purchase the DoubleCard software) is easy using the DoubleCard's automatic installation program. You simply place HPDC.EXE and DCFMT.EXE on your card and run HPDC. HPDC creates a G drive along with your normal, now smaller, C drive. In other words, C now contains the unStac'd (uncompressed) files, and a portion of the original C drive contains the Stac'd files. There appear to be two limitations with using this configuration. Once created, you may no longer partition the C drive without destroying the G drive. Also, the G drive may not have an APNAME-.LST file.

The real beauty of using the DoubleCard is that it is truly "plug-n-play." You can freely mix ROM and regular RAM cards, and the DoubleCard always auto-mounts. A 4MB card with a 1MB G drive provides a whopping 5MB of storage on the 95LX!

[Mark uses his 95LX for PIM, E-mail, entertainment, and programming sophisticated audio/video systems. Mark is the new father of twin boys (congratulations Mark and Lydia, welcome to the world Thomas Alexander and Peter Nicholas Scardina!). Mark is a computer consultant based in San Francisco, specializing in palmtop-based applications. He can be reached at 415-681-9672 or CIS ID: [76711,732] for commercial projects.]

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Lotus Agenda on the HP 95LX

Agenda lets you enter random information and reorganize it later. This article tells you how to set it up and enhance its performance on the HP 95LX.

By David Hamachek

Lotus Agenda has unique capabilities for text data base management. It allows you to enter random information now, and reorganize it as you desire at a later time. Agenda is a program that may be personalized to meet individual needs, but the amount of time needed to personalize it is not insignificant. Fortunately, Agenda is adequate for most needs without this effort.

System Memory

Agenda requires at least 435K of System RAM to operate on the 95LX. The more available, the faster it runs. A 1MB 95LX is necessary to prevent Agenda from being intolerably sluggish (Agenda loads three times faster on a 1MB 95LX than on a 512K machine). System RAM should be set to 626K, and Agenda should be run from DOS (not from the $SYSMGR shelled to DOS) without any large TSR programs loaded – in other words, you must create or modify a file called A:\AUTOEXEC.BAT. This file must contain the following lines:

```
PROMPT=$p$g
PATH=C:\;C:\_DAT;C:\_SYS;A:\
PAUSE Press Ctrl-C to DOS without TSRs
REM load TSRs here
$SYSMGR
```

Each time you want to start Agenda (and again when you've exited Agenda), save any open files, then press CTRL-ALT-DEL to reboot your machine. At the prompt, press CTRL-C, Y, **AGENDA** and ENTER if you want to run Agenda. Press any other key at the prompt to start the built-in 95LX applications.

You must also create or modify a file called A:\CONFIG.SYS so that it has the following lines (make sure you have a blank space before /E and /P):

```
SHELL=COMMAND /E:512 /P
BUFFERS=8
```

You will also need another file called A:\AGENDA.BAT that has the following lines:

```
DISPCTL -C
A:
CD\AGENDA
AGENDA A:\AGENDA\PLANNER.AG
DISPCTL +C
CD\
```

These three files can be created in MEMO.

Despite the fact that expanded memory will speed up Agenda on desktop machines, do not use an EMS simulator on the 95LX. The simulator just adds one more disk read and write operation in memory that is no faster than the 95LX RAM, and actually slows Agenda down. (On a desktop machine, in contrast, read and write operations are much faster to EMS than they are to the hard disk.)

RAM Card Memory and File Compression

You will need the following files in your A:\AGENDA directory: A.EXE, AGENDA.EXE, AGENDA.RI, and PLANNER.AG (or XXX.AG if you've renamed Planner).

(Actually, AGENDA.EXE is optional, but it allows you to shell to DOS. The AGENDA.EXE file consumes very little room compared to the other files.)

Because Agenda uses overlays, PkLite cannot be used to reduce the disk space required. DIET does not make any sense for file compression, because it needs unused disk space at least as large as the largest uncompressed file (in this case, 662K) – this requirement more than offsets any compression savings.

Stacker does offer some space savings, but it takes twice as long to load Agenda and 20% longer to change Views when Stacker is used.

The first three files mentioned above require 834K uncompressed, and 569K after being compressed with Stacker.

In addition, you need room for your .AG file (say 125K uncompressed, or 70K compressed). Agenda also needs roughly 100K for temporary files. A total of 1,059K uncompressed or 739K compressed (not counting Stacker). You should also consider including AG_CHK.EXE and AG_CHK.RI – these files allow periodic checking and repair of minor data base file damage, similar to using DOS's Chkdsk (but at a cost of an additional 61K of disk space uncompressed or 43K compressed).

Performance Enhancement

Open your .AG file in Agenda, and select F10 (Menu). Then press File

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Properties, highlight **Auto-assign settings** and press [<Spacebar>]. Then turn "Assignment conditions" **Off**, and "Assignment actions" **Off**. (Leave "Text matching" **On**, and leave "Apply conditions" set to **Automatically**.) Then press [ENTER] twice to return. These settings will speed up Agenda substantially, while still making automatic assignment to categories based on the text of items that are entered or imported. (Contrary to advice elsewhere, do not set "Apply conditions" to **On demand** – it will double your loading and View changing time. Leaving Assignment conditions and actions **On** does not affect loading and View changing time, but does slow down text matching.)

You should keep your item entries as short as possible and enter details in notes to the items, to minimize response time.

Reading entries is much easier if you do the following. First highlight the section head, press [F10] [MENU] View Column Width. Then use the Left Arrow key to reduce the column width (making the entries narrower than the 95LX screen width) and press [ENTER]. Use the [ALT]-Arrow Keys to scroll the 95LX window on the 80 x 25 Agenda page.

Note that turning the 95LX sleep mode off does not give any performance improvement over the above approach, and will only consume batteries more quickly.

It will take about 20 seconds to load your Agenda file. It will take 10 to 20 seconds to change Views. While this is about three times as long as a 386 machine would take, it is certainly acceptable performance.

Advanced Users Only

If you must apply actions and conditions other than text matching after an item is modified or a new item is entered, you can either leave the Assignment conditions and actions **On**, or you can use Utilities Execute and select **Apply conditions Against Marked items** and **Apply actions to New assignments only**. (Utilities Execute against all items and all assignments takes forever on the 95LX.) You can apply conditions (only) to a highlighted item by pressing the [ALT]-**E** combination.

Due to the time required to load Agenda, and the fact that Agenda is very slow when shelled to DOS from System Manager applications, you may want a way to add new items to Agenda that does not require opening the program. This can be done by creating a MEMO file that has all the required assignment and date information in the item paragraph, separating each item by a double carriage return, running the memo file through the TXT2STF program (61K uncompressed or 34K if you compress it with DIET), and importing the resulting .STF file into your .AG file. This lets you easily enter new items from System Manager. (Note: Do NOT use the automatic import .STF file option. It will substantially increase your file loading and saving time.)

If you spend most of your time in DOS, an alternate approach to adding new items is to use the Items accessory in Metro. This will automatically create an .STF file that can be imported. *(CAUTION – Metro will hang your machine if you try to pop it up over any System Manager application.)*

I have also created a view for my 95LX with sections for: Meetings today or earlier, calls today or earlier (with a column for inserting phone book names, so that phone numbers pop up in an adjacent column), and todo or follow-up items that are due (or overdue) today. This reduces the amount of view changing that has to be done, while minimizing the size of the View to improve response. Note that Datebook views do not allow adding sections, so in order to do this, you will have to create your own sections, and have the sections sorted by start time. (Datebook Views increase loading and View changing time substantially, but do allow faster movement within a view.) I have other views for meetings and calls through the end of next month, to allow faster scheduling of meetings or revisions to existing entries. All methods of date browsing are extremely slow in Agenda on the HP 95LX and you should avoid them.

Conclusion

Agenda will be slower than on your desktop machine, but it can work adequately on the 95LX, and adds significant capabilities over the built in PIM applications. Stacker slows down loading time substantially, but offers considerable disk space savings.

[David works for an Architect/Engineering firm that designs power plants. He uses Lotus Agenda to keep track of tasks assigned to his staff, as well as to the major outside organizations involved in a project. Agenda supplements other project organization and control tools. David's CompuServe ID# is [73700, 2250].]

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On the Road and Around the World

This International Sales and Marketing Manager traded in his notebook computer for a 95LX. He uses the Palmtop to track expenses, write client reports, keep confidential price lists, record flight and meeting schedules, and keep customer information.

By Phillip Simpson

Trials of Traveling

I am the International Sales and Marketing Manager at Trace in Melbourne, Australia, and as such, I am required to travel overseas. Over the years, I have used Lotus for pricing and cost calculations, budget forecasts, etc. When laptop computers arrived, I thought all my dreams had come true. I have used the Compaq SLT 286 (laptop) and the Compaq LTE 286 (notebook), both of which, have proved excellent, though heavy, workhorses.

However, I have discovered a number of limitations with these computers. First of all, even the LTE notebook seems to become increasingly heavy on a long trip. Extra batteries and AC Adapter compound this problem. Secondly, these devices are large and visible enough so that security becomes a major consideration when traveling. If I lose the computer I lose more than a piece of hardware; I lose precious data (everything since the last backup). Very few hotels have security boxes large enough to take even a Notebook computer. In addition, I discovered that most standard travel insurance doesn't include electrical equipment with a value greater than about $2000. This meant I had to purchase additional insurance just for the SLT or LTE for $500 – approximately the same cost as my regular global insurance.

A third problem I've discovered is India, which imposes a high import duty (about 150%) on computers of this value. A computer must be formally imported and subsequently exported. Such a procedure adds about one hour to customs clearance. If your computer is lost or stolen in India, you not only lose the machine and data, but you have to pay 150% of its declared purchase price when you leave the country.

Phillip Simpson

One final problem I've had with international travel has been in accurately tracking expenses. It is not unusual to visit 8-10 countries in a 21 day trip, so I need to track expenses in 8-10 currencies. Previously this was all done with painstaking paperwork in a diary. I eventually transferred this laborious task to a spreadsheet.

Enter the HP 95LX

In August, 1991, I purchased my 95LX and have taken it on two lengthy overseas trips. Never again will I need to take any other computer with me. The 95LX met all my basic requirements, plus addressed some of the above problems:

- The size and weight of the 95LX make it an ideal travel companion. I always carry 4 spare batteries, but even with these, weight is no problem.
- All countries sell the AA batteries, so I never have any worries about running short. I carry the extra 4 batteries merely as a convenience for the long plane trips. As a precaution, and to test my real battery usage, I have a plain label inside my battery cover and record whenever I change batteries. I usually change the batteries at the 25% level. Even on a busy trip the batteries last 2-3 weeks.
- With the size of the 95LX I no longer have any security worries. In the evening when I go out for dinner I can either take the 95LX with me in a jacket pocket or check it into the hotel safety deposit box along with my passport, tickets, traveler's checks, etc.
- The value of the 95LX means that it is now covered by my normal travel insurance. The money saved has been earmarked for other 95LX accessories, naturally.
- The cost of the 95LX is such that it doesn't need to be formally imported/exported into such countries as India.

Tracking Expenses

I have now completed the design of a spreadsheet for the 95LX that enables me to maintain accurate expense records in 10 separate currencies, plus my domestic currency. The spreadsheet also converts expenditures back to my domestic currency, which helps me check on spending patterns (EXPENSES.ZIP 💾). All expenses are entered a sequential receipt number is given by the spreadsheet. I enter that number on the receipt and then store

💾 *On The HP Palmtop Paper on Disk, Sep/Oct 92.*

the receipt in a large envelope. Basic details about the transaction are entered along with the currency. The conversion to domestic currency is automatically made. As these conversions are made, a total of all expenses in domestic currency is made at the top of the spreadsheet.

Australian taxation laws and the policy of my company requires the dissection of expenses into a number of categories (e.g. travel, meal, accommodation, etc). I have therefore included columns for these categories and am able to dissect the expenses as I enter them into the spreadsheet.

On my last trip, I was away for 30 days, visited 12 cities, and entered 132 separate items. By the end of the trip, the file was about 57K and still small enough to easily fit on the C Drive. File saving took about 9 seconds, but that inconvenience is minor compared to the amount of data captured and the improvement in productivity produced by the spreadsheet.

When I arrived back from the trip, I transfered the file to my LTE286, enlarged a few of the columns, and then printed out an expense report, accurate to within 50 cents.

Using MEMO for Reports

On my last trip, I prepared daily client reports using MEMO. Each client had on average about 1/2-3/4 of a page of writing. Although some people wonder how an adult can use such a small keyboard, I had no difficulties adapting to it.

Daily updating of client reports required discipline, but was well worth the effort. When I returned home, I transferred my MEMO file to the LTE 286, and gave the file to my secretary. She retrieved it into WordPerfect 5.1, corrected spelling mistakes and syntax errors, and then adjusted the document to a standard company format. Instead of spending hours on the client report, I had the 16 page document completed within 30 minutes of returning to my office.

It's great to have MEMO in your pocket, ready to go at a moments notice. I now prepare the basis of my monthly report in "real time." When something significant happens, I retrieve my current monthly file and update it. At the end of the month, I give a copy of the file to my secretary, who again checks spelling and syntax, and then formats the report accordingly. Once again, productivity is improved for both of us.

Appointment Book vs. a Paper Diary

One of the benefits I find using a written diary is that it's very easy to jot down notes and appointments during phone calls or meetings. A written diary not only gives me a permanent record of appointments, it also gives me the freedom to jot down "mental doodles" (graphic representations of my ideas). Because it's not easy to doodle on the 95LX, making a total switch from a hard diary to an electronic diary is requiring some effort.

For the last seven years I have been using the Danish TIME System. I like its integrated Time Manager that supports the creation of doodles and diagrams. My job in International Sales requires the use of such graphics to convey concepts across language barriers.

Although the 95LX's Appointment Book has an excellent Time Manager, it lacks graphic capabilities. One of the first problems I had with APPT was that it didn't graphically display a whole week's worth of appointments at one glance. This was solved by Ehood Baratz's excellent utility (WEEKABK).

But I still can't doodle on the 95LX, so I carry a small Spiral notebook along with the 95LX. On it I draw, doodle, and write down little throw-away notes (the kind of non-permanent information I don't want to store on the 95LX). It's not a perfect solution, but it works. Maybe somebody should develop a little graphics program for the 95LX.

Another problem I've noticed with APPT is that my .APT files grow very rapidly. Every week now I use the HP Connectivity Pack to Merge my current Appointment Book with a backup copy I have on my notebook computer's hard disk. I am building a comprehensive Calendar Year diary on the hard disk of my notebook computer. It is very easy and quick to search this for notes and appointments using the Find feature of the Connectivity Kit's PC version of Appointment Book. I then use APPT's Remove function to discard appointments and to-dos every 6-8 weeks.

Using Other 95LX Features

While traveling I use all features of the 95LX. I use APPT to record

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flights, meetings and appointments. I use APPT's Note facility to highlight key points for each event.

I use PHONE to keep customer information (phone numbers, fax numbers, addresses, and any special information like the name of their secretary etc).

I use LOTUS for customer pricing files. This enables me to accurately quote prices in the field because I can carry accurate costing details. The password protection system on the 95LX (plus password in Lotus) gives me the confidence to take such sensitive information outside the office. If I must attend to the needs of nature partway through a meeting, I can always take the 95LX with me anyway.

Additions and Improvements

I have now added a 512K RAM Card to my 95LX so that I can have backups of all my critical data. After all, who wants to loose an expense report before it is submitted? I am also considering the purchase of a stand-alone serial disk drive like the Sparcom Drive95. This will not only let me to carry more data on an inexpensive 1.44 MB disk, but will enable me to do a total backup of data while traveling. The addition of Drive95 will also let me transfer files/data to another computer via the 1.44MB disk. This might come in handy if I needed to print out some pricing information, but the only printer available was parallel, and connected to a clients desktop PC. (See page 17 for more on Drive95.)

Conclusion

In conclusion, I have found the HP 95LX an invaluable tool for anyone who is traveling on business, involved in sales, or involved in the management of data or ideas outside the office. I expect to find and learn of even more ways to improve my productivity using my 95LX. One thing is certain, just as I always need a passport and credit cards on a trip, so will the 95LX always be part of my travels.

[Originally from New Zealand, Phillip Simpson now lives in Melbourne, Australia, with his wife Jill and two young boys, Mark who is 5 and David who is 3. Phillip worked in the diagnostic segment of the Health Care Industry for approximately 15 years and is now employed by Trace Scientific as their International Sales and Marketing Manager. As such, he travels to most parts of the world to visit new and current customers. Trace's products are used all around the world to assist clinicians in their diagnosis by providing high-quality and accurate biochemical test results.

A long-time computer user, his first computer being a Commodore Vic20, Phillip is a committed Lotus-1-2-3 convert. Other hobbies include water skiing, power boating, and 4WD (off road). He is currently rebuilding an old 1970 Series IIA Land Rover.]

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HP News

HP is decreasing the price of the 512K 95LX. The rest of this article looks at the HP 95LX's built-in COMM program and the meaning of various settings. It then shows how to connect two 95LX's via modem.

By HP Palmtop Support

From the Factory

Price Decrease for 512K 95LX

The retail price for the 512K unit, in the USA as of Sept 1, 1992 is $550. The 1MB 95LX will remain at $799. Some others countries have reduced HP 95LX prices. International users should check with local sales office.

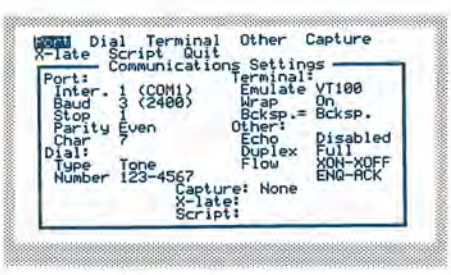
Using The 95LX COMM Program

CONFIGURING COMM

The HP 95LX user can use built-in COMM with a modem and phone line to communicate with other computers. A COMM user can send (upload) or receive (download) files from a remote computer across the country or even across the world. He can leave electronic mail or even carry on a conversation with a user at the other computer.

The challenge in data communications is to make sure the computers on both ends of the phone line are speaking the same language. That is, both computers (and their modems) must know the speed (baud rate) data is being transmitted, according to what rules (protocol).

To understand the following chart, in COMM press [MENU] Settings Config and you will see the following screen:



COMM Configuration Screen

The chart lists the parameter in the COMM config screen, followed by an example setting (the setting necessary to log onto CompuServe), followed by an explanation.

PARAMETER	SAMPLE SETTING	Explanation
Port:		
Interface1	(Com1)	this is the only wire serial port on the 95LX.
Baud	3 (2400)	this assumes your current modem operates at 2400 baud.
Stop	1	1 stop bit is sufficient. 2 stop bits might be used to slow down transmission. The start bit is automatic.
Parity	Even	Bit used for error checking. This setting matches that used by Compuserve.
Char	7	This will provide for the lower 128 chars.
Dial:		
Type	Tone	Pulse will also work with touch-tone phones but tone will not work with rotary phones.
Number	xxxxxxxx	This is the phone number.
Terminal:		
Emulation	VT100*	This is most appropriate for the 95LX on Compuserve.
Wrap	On*	Readability is enhanced when long lines are wrapped at 40 character increments.
Bcksp.	Bcksp.	It is a matter of choice whether you want the cursor to delete as it backs up or simply to backspace.
Other:		
Echo	Disable	Echo enabled may cause your entries to appear twice on the display (this does not affect communication with Compuserve).
Duplex	Full	Full duplex provides for simultaneous two-way communication.
Flow	XON-XOFF ENQ-ACK	Enabling both means of flow control assures the most trouble free data exchange possible on the 95LX.

* Some CompuServe users report these settings better left OFF.

Press [MENU] Settings Save to save settings. Retrieve them with the [MENU] Settings Use command.

SELECTING THE PROTOCOL

When information gets transferred between computers via a modem, both computers must agree on what the data that comes across the phone lines means. All information that gets transferred between computers gets transferred as a series of 1's and 0's. These 1's and 0's make up the content of what is being transferred and the punctuation. The punctuation is necessary so the 1's and 0's can be properly encoded and decoded on each end. The set of rules defining the punctuation is called the "protocol".

The HP 95LX COMM program supports two common protocols supported by many communications packages: XMODEM and KERMIT.

KERMIT

Kermit is one of two protocols built-in to the 95LX to facilitate the transfer of files. Press [MENU] Transfer Kermit Options. You will see only two Kermit Options to configure:

File	binary or text will be chosen depending on the type of file being transferred. (during binary transmission, configure for 8 bit char, no parity)
Block	this is a type of Checksum scheme where you basically can't go wrong.

XMODEM

The Xmodem protocol requires 8 bit characters, no parity in the Settings Config screen. Other settings must match the configuration of the host device. There is no Option menu for Xmodem; Send and Receive are the only choices.

95LX-to-95LX Communication with Modems

For each HP 95LX you need: an HP 82222A Serial interface cable, HP 82224-80003 modem adapter, a modem, access to an analog phone line (not necessary when using acoustic interface).

The simplest communication between two 95LX's gives you effectively the equivalent of two cans connected with a string. The rules for this arrangement are few:

- Baud, char, and parity must be the same on both machines.
- Echo enabled allows the user to see what is being typed.

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No other settings will influence this simple mode of communication. Use the [MENU] Settings Config command to make/select the matching parameters.

Connect both HP 95LX's to the modem and phone line. On the receiving HP 95LX press [MENU] Connect. Now type **ATA** (in caps). This puts the receiving HP 95LX in auto answer mode.

On the dialing HP 95LX press [MENU] Connect. Now type in caps: **ATDT#** where # is the phone number for the receiving unit. After the command to call the other modem is issued, the response on each should be:

caller ..... connect 2400

receiver ..... ring ..... connect 2400

At this point, any keystrokes from either machine will be displayed on the other. With Echo enabled, users will have their keystrokes displayed on their screen also.

FILE TRANSFER

To transfer files between 95LX's, the configurations must match each other.

TEXT transfer is the simplest means of transferring files. From COMM type [MENU] Transfer Text Options. Char must be set for 8-bit data in this mode. Throttling = 0 and Pacing = None (default) is the simplest configuration to use. Refer to the user's manual for variations to these options.

To send a text (.TXT) file from one 95LX to another, select from the files displayed after pressing the sequence: [MENU] Transfer Text Send. Transmission is virtually instantaneous. The file will appear directly on the screen of the receiving unit. If the file cannot be fully viewed in the screen, use the cursor movement arrows to scroll the display as necessary.

CAPTURING TEXT

To retain data received by the 95LX in a file, whether it be simple keyboard activity or TEXT transmissions, use the Datacomm CAPTURE feature. To initiate a capture from within Datacomm, press and hold [CTRL] until the menu appears. Press and release [F5] (Capture) and the display will prompt:

Save incoming data as:
C:_DAT*.CAP

Any existing capture (.CAP) files will also be displayed. Type a file name or select an existing file. The display will return to Datacomm and all incoming data will be saved to the file until [CTRL]-[F5] is again pressed, closing the file. The Datacomm configuration menu provides three options for the Capture feature. The None setting captures all data, refer to the manual for details on Filter and Map.

XMODEM and KERMIT are similarly straightforward. XMODEM has no options, KERMIT has a few. Refer to previous discussion of these two protocols, or the Owner's manual, for specifics.

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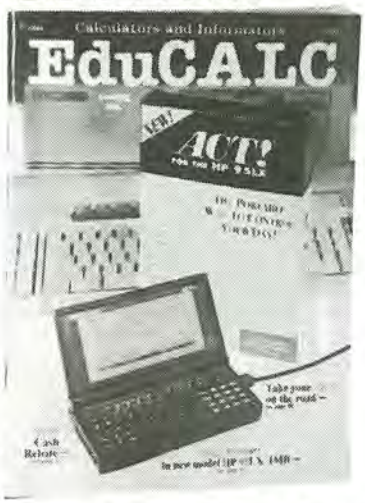

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Alternatives to CompuServe

Although far less comprehensive than CompuServe, Prodigy has an easy-to-use graphical interface and no access charges for PC and Mac users. America OnLine also features an easy graphical interface and has just started a HP 95LX forum for Mac and PC related issues.

Introduction

By Hal Goldstein

I am a great fan of CompuServe and its HPHAND forum as a support vehicle for the HP 95LX. It is the best source available for fast answers to perplexing problems, for discussions about the 95LX, and for a library of 95LX free and shareware software.

However, there are less expensive, easy-to-use electronic information services available. We discuss two here, Prodigy, and America OnLine, thanks to the contribution of subscribers David Shier and Craig de Fasselle. From what I hear the only other electronic source with strong HP 95LX activity is the academic community's network, Internet, discussed on page 16 of the Jan/Feb, 1992 issue. If anyone has more current or complete information, please send your comments to me for publication.

The Prodigy Information Service

By Dave Shier
Prodigy ID: CXBG88A.
CompuServe ID: [75030,3374])

A quick scan through any issue of *The HP Palmtop Paper* makes it clear that CompuServe (commonly referred to as CIS) provides a wealth of information and general support for the HP 95LX. While CIS has far more to offer the HP 95LX users than any other information service, if you are not a member, you may wish to compare the services before selecting one.

Prodigy is an on-line service available in the U.S., a joint-venture of IBM and Sears. To use Prodigy (often abbreviated as P*), you must have an Apple or IBM compatible computer and a modem.

Prodigy also requires the use of a proprietary access program running in graphics mode, therefore, it is not possible to access Prodigy from your HP 95LX.

The main advantages of Prodigy over CIS is its lack of on-line access charges and its ease of use. Anybody can run Prodigy, including small children (who love the graphic interface and find it entertaining).

Prodigy has a small number of special interest bulletin boards (BBs) similar to the CIS forum message sections. Questions and comments regarding the HP 95LX are posted on the Computer Club BBs. The best topic to use is **Hardware: Systems**, although Palmtop messages are often found under the topic: **Other PC Topics**.

Currently, most of the messages regarding the HP 95LX seem to be from new users, or those evaluating the various palmtops. However, I hope to see some of the programmers and "power users," who frequent the HPHAND forum on CIS, posting messages and answering questions on Prodigy.

While most folks on Prodigy will tell you that CIS is far too costly, be aware that you get what you pay for. Prodigy can be a bargain, but like any bargain, it comes with limitations. Prodigy's limitations start with the slow interface (I have often heard Prodigy referred to as Plodigy). It's particularly annoying that much of the wait is due to Prodigy painting advertisements on the bottom 1/3 of the screen. But remember you are not paying for the on-line time. Prodigy also does not post public messages immediately, but instead reads them first to assure that offensive messages are not posted. This delay, of 4 to 12 hours, makes it difficult to follow a conversation. An additional limitation is the inability to post a response to any message, other than the one which started the subject (although you can always post a new message that is not a reply, or reply to any message via private mail). Finally, Prodigy does not support the uploading or downloading of files (Prodigy does now offer the Ziffnet service at an additional charge).

Prodigy starter kits are generally available at software sources, including retail software vendors and Sears stores. You can find these kits bundled as premiums with other software or hardware such as modems. The price of a start-up kit depends on the source.

The monthly cost of Prodigy is from $9.95 to $12.95, depending on how many months you pay for at one time. In addition, some services, such as on-line bill paying and stock purchases, require an additional premium.

Software installation is as simple as any software package I have seen. In most cases the user will be able to accept the default values during install.

After the initial installation, any update to the Prodigy software is sent to you automatically when you log on.

Learning Prodigy is easy. The user can simply select the sections from the menus (like CompuServe) or use commands, which are listed on the screen, to JUMP to a specific section, or to FIND a keyword. The on-line editor that comes with Prodigy is limited and Prodigy does not support uploading of messages. However, a third party add-on allows uploading and downloading of messages and contains an editor with a spell checker. I just ordered this package on-line ($19.95). When I get it, I'll check it out and let you know if I think it has any merit.

While Prodigy will never be a substitute for CompuServe, if you have to share a single on-line service with your family (up to six

members per household can have sub-accounts at no additional cost), or if you need to have a fixed cost regardless of access time, Prodigy could be the answer. The more of us HP 95LX users there are on Prodigy, the better the support will be.

HP95 Forum on America OnLine (AOL)

By Craig de Fasselle
AOL ID: FLOW13
CompuServe ID: [76500,1440]

In your July/Aug issue of the Palmtop Paper (an excellent newsletter), Earl Morton asked about a HP 95LX forum on America Online (AOL). I have talked to AOL about this, and by the time you read this, America Online will have established a section for 95LX users. A number of 95LX shareware programs have already been uploaded to AOL. Although final location for the palmtop group was not established at press time, interested parties should look for the new group within their computer hardware forum (keyword **Mac Hardware** or **PC Hardware**). Look for an announcement or folder regarding the HP 95LX palmtop users group.

We are looking for a volunteer to be forum leader. This individual will receive free online time from AOL, so there will be no costs involved to anyone contributing their time and talents. If you are interested in being the forum leader, please contact Craig de Fasselle (CompuServe ID: [76500,1440] or AOL screen name FLOW13).

America Online supports Macintosh and PC computers, and features an easy to use graphic interface for the Mac and Windows. Access for DOS or Apple II users is hierarchial. The software for either computer is free, and can be obtained by calling AOL at **800-827-6364** or writing *America Online, 8619 Westwood Drive Center, Vienna, VA 22182-9806*. The free software supports offline Email composition, scheduled log ons, and unattended downloading of pre-selected files at any time. A free trial membership is offered. AOL's fees are $5.95 per month, which includes one hour of free online time. Online charges are $5.00 per hour from 6:00 pm to 6:00 am weekday evenings, $5.00 per hour all day and night on weekends and holidays, and $10.00 per hour during weekdays.

COLUMN: *User to User*

User To User:

In spite of sparse HP technical documentation, Mark Scardina has come up with a method to quickly and easily make software System-Manager compliant. For fun, Hal explores programs that create words, sounds, and music on the 95LX.

By Hal Goldstein

Some Technical Documentation Please

The Hewlett Packard / Lotus creation of the HP 95LX seems even more extraordinary now, 1½ years after its introduction. Despite all that we read in the computer press about the explosion of the Palmtop marketplace, there is as yet no real competition for the 95LX. No existing palmtop matches the built-in capability or compact size of the 95LX.

Given the leadership position of the HP 95LX and the uniqueness of the Lotus System Manager, we would have thought by now, complete technical information needed by developers, small or large, would be available. Furthermore, we have heard complaints from small developers that they have not been able to access the free technical information that HP has been able to provide. Not providing access of technical information to small developers is a big mistake. Already, the best HP 95LX software we have seen has been produced by the dedicated individual programmer as opposed to larger software entities.

Once again, we implore Hewlett Packard and Lotus to make available, for some reasonable fee, all the technical information needed by developers to write good 95LX applications. Good 95LX-oriented software can only sell more HP 95LX's.

Mark Scardina to the Rescue

While we continue to urge Hewlett Packard and Lotus to publish this technical documentation, particularly on System Manager, contributing editor Mark Scardina of *The HP Palmtop Paper* may have come up with an alternative solution. Mark tells me that he is crafting a method for developers to quickly and easily make their software "System-Manager compliant." What that means is that any developer who is willing to spend an hour recompiling his program can make his DOS based program work in conjunction with the 95LX built-in applications. (Naturally, for such a program to run on the 95LX, it would still face limited disk space and system memory, and have to conform to the non-standard 40 x 16 graphics screen.)

Mark tells me that he now has the highly touted shareware editor, VDE, and shareware communications package, COMMO, working with the built-in applications. In fact, Mark has the blue MEMO and COMM keys starting VDE and COMMO, rather than MEMO and COMM!

There are already a number of commercial programs, such as Grandview, InfoSelect, Agenda, and Wordperfect 4.2, that run reasonably well on the HP 95LX. These too could work in the System Manager environment alongside Phone, Appointment, and 1-2-3. The manufacturers of these products would only have to re-compile their programs with Mark's minor changes.

The beauty of Mark's plan is that once these programs are re-compiled, they remain MS-DOS EXE or COM program files. They run as before on a PC compatible and from DOS on the 95LX. What Mark does is create an additional 1K (EXM) file so that the program runs with the built-in applications. Unlike MENU-95, supplied on the Subscribers Disk, these modified programs have all the characteristics of the built-in applications. Given enough System Memory, you could open PHONE, 1-2-3, and, say, this special version of VDE, and switch back and forth between these applications.

WHAT'S THE CATCH?

The only other thing needed for these revised DOS based programs to become system compliant is for the HP 95LX user to install a version of SWITCH, marketed by ACE Technologies. The SWITCH program contains a Systems Manager enhancer. Those of you who installed our free Subscribers Disk may understand this. The Subscribers Disk automatically installs Mark's SYS-MGR.EXE, which fixes problems that impede running existing, dedicated system compliant (EXM) software. A more advanced version of this program, SWITCH.COM, will be packaged with SWITCH, and will allow software that has made Mark's specified minor changes work just like a system compliant application. This is good news for developers and users alike. We expect to have quite a bit more detail by the next issue of *The HP Palmtop Paper*. Note that current users of SWITCH will be able to upgrade for a nominal fee.

If you are a developer and want to discuss this with Mark, contact him at his CompuServe ID [76711,-732] or call Mark at 415-681- 9672.

Now, on the lighter side:

Sound and the HP 95LX

Those of you who played with Ramon Santoyo's U-SOUNDS were perhaps surprised to learn of the HP 95LX's capabilities to produce sound. There are a number of freeware and shareware programs available that allow the HP 95LX to speak. Be thrilled by the "Lone Ranger" – three minutes of the William Tell Overture; train the 95LX to say a colleague's name, or reminders; distinctly hear the call of trumpets or the Terminator saying "I'll be back." The good news is that these programs work on the 95LX. The bad news is that the volume, quality and understandability vary greatly. Specific phrases or sounds can be quite clear – at the expense of disk space and lack of flexibility in producing the sounds you wish.

THE HP 95LX SINGS

Contributing editor Ed Keefe recently sent me hours worth of music playable on the HP 95LX in a file called MUS95.ZIP. To give you a flavor of what's on the collection, here is a menu which allows you to choose which piece you would like to play.

```
                    MUSIC BOX 95
-------------------------------------------------------
A. GodfAther Theme   B. Broadway
D. The Blue Danube   E. The Entertainer
F. Funeral March     G. Greensleeves
H. Happy Birthday    J. Romeo & Juliet
M. Moonlight Sonata  O. Odd Couple
P. Popeye Them       R. Recorder Concerto
S. Starwars Theme    T. Toccata & Fugue
U. PreLUde-Bach      W. Wm Tell Overture
Y. Sleeping BeautY   Z. Symph #40
X. Medley
Press a letter...or press Q to quit.
```

Menu of songs available

As you can see, you can choose from Mozart to Scott Joplin's "Entertainer," from the "Godfather Theme" to

U-SOUNDS on 92 Subscribers Disk.
MUS95.ZIP On The HP Palmtop Paper on Disk, Sep/Oct 92 issue.

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System requirements

PC version: MS-DOS 2.1 or later, only 512Kb RAM and one 3.5" or 5.25"disk drive. Suggested retail price is $250.

ROM-card version: Hewlett-Packard 95LX Palmtop computer. Suggested retail price is $289.

Contact Soft Warehouse for a list of dealers. Or, ask at your local computer store, software store or HP calculator dealer. Dealer inquires are welcome.

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the William Tell Overture (the Lone Ranger theme). Further, its medley selection contains another 40 themes including "Auld Lang Syne," "California Here I Come," "God Save the Queen," "Dance of the Marionettes" (the Alfred Hitchcock Theme), and the Carmen Habanera.

If you expect CD quality sound you will be disappointed. However, I found the tunes genuinely enjoyable and appreciated the novelty.

THE 95LX SPEAKS

Robert Williams, the physician who wrote last issue's profile, found a program called TALKER.EXE. TALKER lets you type a word into your 95LX, and have your 95LX attempt to pronounce it. You can type anything: A name, a profound pronouncement, or a four-letter word. Type your phrase and then press [ENTER] and the computer attempts to enunciate what you just typed in. If you know ahead of time what the computer is trying to say, it seems to do a reasonably good job. However, normally it is difficult to understand the 95LX's speech patterns and interpret what is being said. Some phrases come out better than others.

Dave Marsh's sound program, SNDPLAY.EXE does a better job in 95LX speech synthesis. The program was written explicitly for the 95LX's sound capability. Unfortunately, SNDPLAY limits you only to sound patterns that have already been created. For example, you can clearly hear Hal, the computer from *2001: A Space Odyssey,* tell Dave in a soft calming voice, "I am completely operational and all my circuits are functioning perfectly." You can also understand bass voiced Darth Vedar telling the emperor "As you wish." In addition there are preprogrammed sounds for the "Three Stooges," dog barks, a baby greeting his father, and others, all with surprising clarity.

Another program, BEBACK.COM, picks out one small sound phrase and echos it in the 95LX. Run BEBACK.COM on the 95LX, and you will hear the Terminator (Arnold Schwartzenegger) in his Austrian accent state: "I'll be back."

Sound on the HP 95LX is still a novelty with limited usefulness. The programs dedicated to specific sounds can be quite life-like, but the programs are relatively large and give the user no flexibility. Programs such as TALKER (30K) don't take up much disk space, but the quality of the sound is severely limited. Music seems to take up much less disk space than speech synthesis. So for example, the phrase, "I'll be back" takes 12K, where Ed Keefe's music medley of 25 songs takes 15K.

The other limitation known by those of you who have tried to use the HP 95LX as an alarm clock, is that the volume is low. Music plays the loudest, but in general you need to put the 95LX to your ear to hear clearly what it is trying to say.

THE 95LX CHIRPS

You Star Trek fans remember the chirping sound when Captain Kirk uses his communicator to talk to the Enterprise? Well, Dave Goodman has just the thing for you. Run STARTREK.COM and you will see a nice United Federation of Planets logo appear on your screen.

United Federation of Planets Logo

Now turn the 95LX off and on again, and you'll hear your HP 95LX communicator chirp. Thank you Dave (from Hal).

Control Your Home Entertainment Center from the HP 95LX

Some of the best HP 95LX programming minds have teamed together to create myREMOTE, a software package that lets you use the HP 95LX to control your TV, VCR, CD player, and so on via the HP 95LX IR port. Dave Goodman, who has written some of the best shareware utilities for the HP 95LX, has teamed up with *The HP Palmtop Paper*'s Mark Scardina and ACE Technology's Andy Fu to develop the $29 package. We will take a detailed look in a future issue. If you want to test to see if your remote controlled equipment is controllable from the 95LX, you can download RMTEST.ZIP from CompuServe, or find it on this issue's *HP Palmtop Paper on Disk.*

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Lithium AA Batteries Available at These Locations

The Eveready Battery Company announced the retail availability of the *Energizer Hi Energy Lithium L91 AA Battery.* As discussed in previous issues, these batteries at least double the HP 95LX battery life. The following retailers will merchandise the battery, two per pack, starting in September, 1992: KMART and Walgreen Drugs (nationwide U.S.), and Payless stores (Northwest U.S.). Check in the photography sections of these stores for the batteries.

On The HP Palmtop Paper on Disk, Set/Oct 92, or on the CompuServe HPHAND forum.

Through The Looking Glass

Ed shows how to use Windows 3.1 on your desktop to customize your 95LX TopCard opening screen.

By Ed Keefe

Using Windows 3.1 Paintbrush Program to Create TopCard (PCX) Files

Are you getting tired of the same old TopCard on your 95LX? Would you like to have a TopCard of your own design? Perhaps something that looks like your business card?

If the answer is yes, then you might like to try your hand at designing just such a card. Here is a recipe for creating a unique TopCard file using the Paintbrush program from Windows 3.1.

Activate Windows 3.1. and double click on the Paintbrush icon. When Paintbrush is active, pull down the **Options** submenu and select **Image attributes** to change the size of the drawing area .

Go to the Units box of the Image Attributes dialog box and click on **pels**. In the Colors Box, select **Black and white**. Set the width to **240** and height to **128**. Click [OK] to lock this in. You should see a small rectangular box in the upper left corner of the work area.

Windows Paintbrush Screen after changing drawing area size

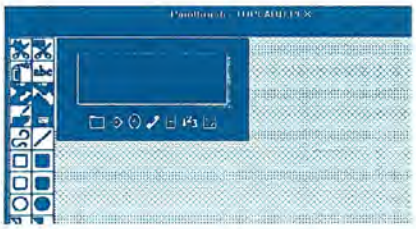
Use one of Paintbrush's drawing tools, or select **Text Fonts** to enter text into the picture. Remember that black and white will be reversed on the HP 95LX. If you want to have black text on a white background, you have to create white text on a black background in Paintbrush. To create a black background, select the Paintbrush fill icon (shaped like a paint roller). Then click on the solid black box on the color bar. Finally, position the fill icon in the small drawing box and click to fill the entire drawing area with black.

To select white text, click the Text icon on the tool bar (small box with the letters "ABC" in it). Then click the white box on the color bar. Any text you now enter will be white.

Save your work with the .PCX extension and use ZIP.COM or another file transfer program to transfer it back to the HP 95LX _DAT subdirectory. Go into SET UP (press [<Shift>] [FILER]) and press **Owner Picture-File** [ESC] and move the cursor to the .PCX file you just created. Exit SET UP and the other built-in applications, and the new PCX file will appear on the screen when you turn the 95LX on.

You can modify your existing TOPCARD.PCX file also. Use ZIP-.COM or the APP95 file transfer program to copy TOPCARD.PCX from the 95LX to your desktop. Click **File Open** and select TOPCARD-.PCX. The file will appear on the Paintbrush screen. You can modify and save it as described above.

On the 1992 HP Palmtop Paper Subscribers Disk.



TopCard file imported into Paintbrush

Serial *and* Parallel Connectivity Kit and Hard Disk for HP 95LX

Finally, a connectivity kit for the HP 95LX that does it all! This innovative kit from BSE includes a serial cable, hard disk interface, and **parallel** port for fast plug-and-play connectivity. BSE's kit is more than just a serial to parallel converter, it's a **true** IBM-compatible bi-directional high speed parallel port. Now you can conveniently connect to your printer **or** to BSE's **Flashdrive** portable hard disk system in just seconds! The Flashdrive is rugged and **easy to use** with a pass through port for the printer and internal rechargeable batteries. **Convenient**, 5 hour operation and optional 220/240V input. The Flashdrive is **tiny** at only 1.5" tall and less than 1.5lb, including batteries! Available from 20 to 130MB.

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The BSE Company 602-527-8843 Available at **EduCALC**

SOME TIPS

Select **View, Cursor position** and Paintbrush displays the coordinates of the position in the picture you are working on. This may help you keep track of where you are. I've found that setting the attribute to black and picking Paintbrush's fat brush shape lets me erase the whole area in a few sweeps. I also select **View, Zoom in** and select a portion of the picture to magnify so that I can fine tune the picture, pixel by pixel.

Below is TLG.PCX, a TopCard PCX file I created with Paintbrush.

Customized TopCard on 95LX screen

Transfer the finished picture to the HP 95LX, and use Setup-Owner to make the new PCX file pop-up in place of the normal TOPCARD.PCX file.

If you leave the Owner Filename as C:_DAT\TOPCARD.PCX and move your new PCX file to C:_DAT\TOPCARD.PCX, be sure and use Setup to delete any info in the Owner window. Otherwise it will be superimposed on your new TOPCARD. You might also paint the upper right and lower left corners of your PCX file solid black to leave room for the time and date and the "Press a blue application key..." message.

In A Mathematical Mood

While doing research for this month's Programmers' Corner article on Derive, I began to wonder what other math programs would work on the HP 95LX.

Granted, CALC and 1-2-3 will solve many of the real-world math problems that most of us will ever encounter. And, for the true mathematicians, if there is a need for a wayfaring calculus engine, Derive will more than meet that need.

But what about those times when the rest of us encounter math beyond the capabilities of CALC or 1-2-3, or our own level of mathematical training?

If all we want to do is put some numbers in a formula and crank out an answer quickly, then the quickest answer to our problem is to use CALC's Solve routine.

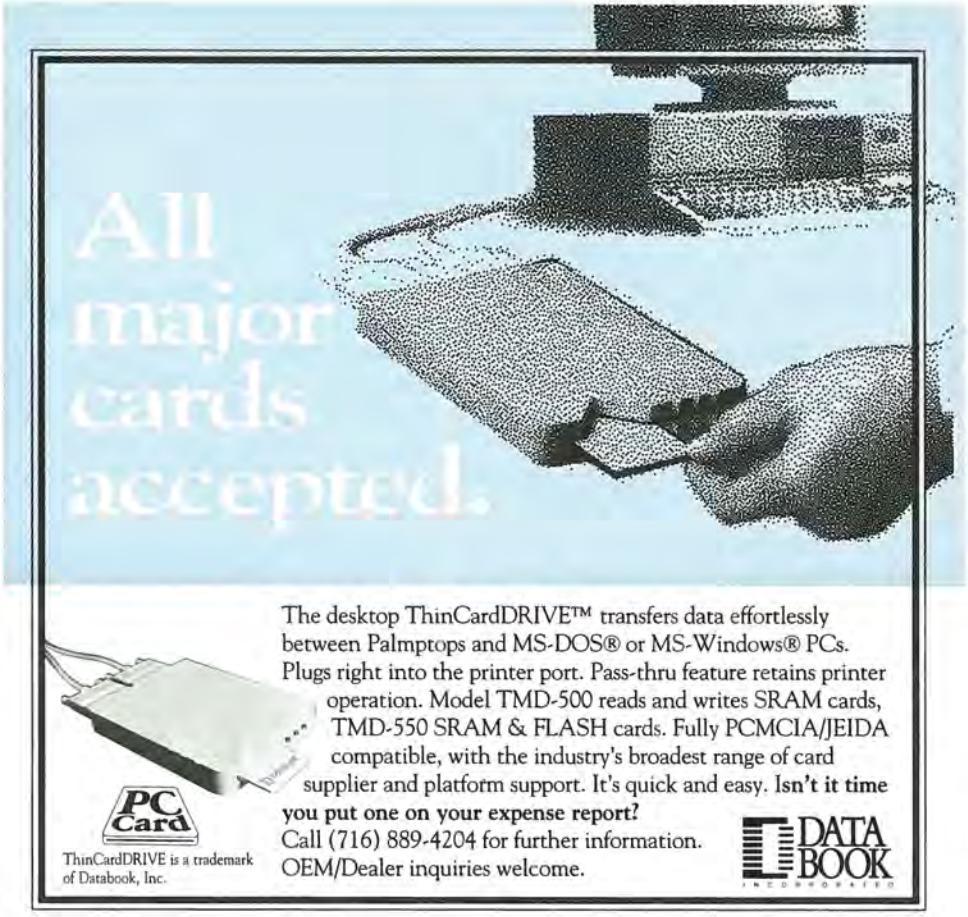
However, suppose you're confronted with a problem that involves the solution of two or more linear equations. You know, the kind of algebra that says, if 4x + 3y = 25 and 16x -9y = 100, what are the values of x and y? Hmmm. CALC solves that kind of problem, but the solution's not that intuitive.

Or, how about something like this? A farmer wants to maximize profit by planting two crops on 100 acres of land. The total time spent planting and caring for the crops can't exceed 160 hours and the second crop takes 4 times as many work-hours as the first crop. The total investment must be less than or equal to $1,200. Typically, the first crop costs $10 per acre and gives $30 profit while the second costs $20 and yields a profit of $100 per acre. The question is: how many acres of each crop should be planted? Don't bother to push the blue CALC key for this type of problem. You might try 1-2-3 instead, but, once again, the solution, though possible, is not something for the mathematically disinclined.

One of the few computer programs that could solve such a problem is an old workhorse from Borland International. The program is called EUREKA: The Solver.

Eureka was released in 1987, and, for its day, it was quite novel. It used a technique of solving math problems by making repeated guesses at a solution and checking to see how close each guess was. It would keep on guessing until it ran out of time or computer memory.

On The HP Palmtop Paper on Disk, Set/Oct 92.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CALC uses this same technique to solve some problems that don't lend themselves to a direct solution.

Since I still had a copy of Eureka, I wondered if it would work on the HP 95LX. It took me about half an hour to resurrect it, color it black and white, and resize the display so it would show up in the HP 95LX.

Once it was installed on the 95LX, it took me a couple more minutes to key in the simultaneous, linear equation problem, and push the button to start the solution.

```
**********************************
Eureka: The Solver, Version 1.0
Name of input file: A:\LINEQN.EKA
**********************************

4*X + 3*Y = 25
16*X - 9*Y = 100

**********************************

Solution:
Variables Values
 X  =  6.2500000
 Y  =  .00000000

**********************************
```

On the other hand, the solution to the dual crop problem took an astounding two and a half minutes to run to completion.

Here's what the problem and its solution looked like.

```
**********************************
Eureka: The Solver, Version 1.0
Name of input file: A:\FARMER.EKA
**********************************

P= (30*X) +(100*Y);
$MAX (P)

X+Y <= 100
X+4*Y <=160
10*X+20*Y <=1200
X>=0
Y>=0

**********************************

Solution:

Variables Values
 P  =  4400.
 X  =  80.00
 Y  =  20.00
Confidence level = 85.4%
All constraints satisfied.

**********************************
```

If you have access to a copy of Eureka: The Solver, you might want to try the same experiment.

Sad to say, Eureka is no longer being sold by Borland. When the software company decided to focus its energies on spreadsheets and database programs, it released Eureka back to its original author, Roger Shlafly, of Real Software.

Roger has rewritten the program and offers it as a shareware product now called Mercury.

I found a copy of Mercury, version 2.09 on the same bulletin board that serves Derive users.

Mercury has some unique features that might make it useful for the HP 95LX. For example, it's one of the few programs that will let you choose the serial port for printer output. It supports over 30 different printers, including the Laserjet.

Mercury demands a color monitor to produce graphs. However, in the absence of such a display, you can tell Mercury to list the coordinates for such a graph and store the list in a file. The coordinates can then be imported into Lotus 1-2-3 for graphical analysis.

We've included a copy of MRCRY209.ZIP on *The HP Palmtop Paper ON DISK* for those who would like to experiment with this program. Mercury requires an 80 X 25 screen, so expect to spend a lot of time scrolling around the small screen of the HP 95LX. Also, as with any new piece of software, be sure to back up everything on your HP 95LX before using it.

If you feel that the program has merit, you might give the author a call and suggest that he modify Mercury for use on the HP 95LX. My first attempt at making such a suggestion met with a cool reception. The price of $49 is not unreasonable.

[Ed Keefe is an author, programmer, computer science instructor, and long-time contributor to support publications for HP computers. He is the president of the FastAid Company, 314 S.W. Logan, Ankeny, IA 50021. Ed's CompuServe ID# is [75300,3667].]

On The HP Palmtop Paper on Disk, Sep/Oct 92.

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The Savvy User

Tom makes some design suggestions for the visually impaired, gives some advice on how not to bend AC adapter prongs, and lists some tips on analyzing the built-in_STAT.WK1, or any Lotus worksheet.

By Thomas R. Page

Years ago I had what I thought was a horrible bout with the common cold. As it turns out, I was infected with the "Histoplasmosis" fungus, which in most cases causes respiratory distress, but with some unfortunate individuals (me) can cause scarring on the retina of the eye. This can lead, 20 or 30 years later, to vision problems, which I am now experiencing.

(The Histoplasmosis fungus is common, found in the accumulated droppings of birds, pigeons, poultry and bats. Over 50 million Americans have been infected by this fungus. My ophthalmologist recommends that those people who have had a Histoplasmosis infection or have lived in a high risk area have their retinas examined by an ophthalmologist for signs of a past infection.)

My vision difficulties have caused me to consider ways the 95LX might be used or modified to assist people with a vision impairment. One of the first things that comes to mind is the Dialtone program (mentioned in this column, May/June 92 issue, page 31). With Dialtone, you can hold your 95LX up to the speaker of a touchtone telephone and let the 95LX "dial" the phone by making the touchtone beeps. Dialing a phone is one of the most difficult tasks for me at present.

It would also be nice if programs such as Phone Book could be modified to display larger characters. I think this program and the HP Calculator program could be modified to effectively display larger characters. (The numbers on the 95LX's calculator display look pretty wimpy compared with the numbers on my old HP 12E calculator.)

Although I would not change the size of the 95LX, I think a new version with fewer, larger keys makes sense, especially the more commonly used keys. I also think that newer versions of the 95LX should be designed so that it is easier to install custom ROM chips. This would make it easier for specific users, including those of us with a vision impairment, to customize the Palmtop.

Enhancements for the visually impaired would benefit others. Sure, a brighter, higher contrast display would be a big help for me with my current problem, but it would benefit others with less serious visual problems, and even make the 95LX easier to use for the general population. Curb ramps were originally designed for people in wheelchairs, but benefit delivery men. Just so, programs and computer hardware that benefit the visually impaired can help people with normal vision.

Avoid Bending the Prongs On Your AC Adapter

I used to throw the power adapters used with my various portable toys in a briefcase, giving no consideration to their protection. Consequently I spend a lot of time straightening bent prongs. I have discovered an almost elegant solution to this problem – an extension cord end!

Female extension cord ends may be purchased at the electrical supplies section of your local hardware store. Plug the transformer into one of those and it will protect the prongs from bending.

Print to Parallel Printers from the HP 95LX

Paralink 3 is for those times you need to print to a parallel printer from the HP 95LX. Just connect one end of the **Paralink 3** adapter to your printer's 36-pin female parallel port, and the other to the 95LX via the serial cable from the Connectivity Pack.
Paralink 3 is battery powered and works with most parallel printers. It's light, small, and easy to carry.

Paralink 3 retails for £59.95.
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_STAT.WK1

I had planned to give a detailed analysis of the _STAT.WK1 spreadsheet contained in the 95LX's ROM, but unfortunately my eyes aren't up to it. If you want to review it, you're on your own. To retrieve the spreadsheet, enter Lotus and press [MENU] File Retrieve. Then use your arrow keys to highlight _STAT.WK1 and press [ENTER]. Let me give you some tips that will help you analyze any spreadsheet:

1. Read and follow directions
2. Try a sample problem
3. Examine the formulas
4. Examine the macros
5. Enhance and customize the spreadsheet to meet your needs
6. Incorporate the knowledge you gain into your spreadsheets.

Step six is most important. It is why you are doing steps one through four. Step five is great if you need the spreadsheet.

All writers develop a unique style, and this includes writers of spreadsheets. The style of _STAT is very different to that of _EXPENSE analyzed on page 31 of the May/June 92 issue. The most distinctive feature of _STAT's style is its diagonal organization, where each "page" of the spreadsheet is below and to the right of the previous "page," much like the diagonal red or black

On The HP Palmtop Paper on Disk, May/Jun 92.

squares on a checker board.

I can not bring myself to use the diagonal organization. When I first learned to use spreadsheets, memory was conserved by cramming everything in the upper left corner of the spreadsheet. Memory management has improved since the days of VisiCalc and 1-2-3 Release 1A. Today the diagonal organization may be used without significant, if any, memory penalty but I still don't want anything in cell GA3382, it's just too far away from cell A1.

I did not find any hidden cells in _STAT. This is another element of style. Some spreadsheet writers try to protect the users of their spreadsheets from the inner workings of the spreadsheet by hiding key areas of the spreadsheet. I never liked hidden cells. They cause more trouble than they save. (If you remember, in _EXPENSE the cells containing the macros had to be unhidden.)

One interesting feature of _STAT is its macro subroutines. Subroutines save memory by eliminating repetitive codes. There is a small penalty in execution speed when a subroutine is used instead of repeated code, but it is not significant, and is far outweighed by the advantages of using subroutines.

To create a subroutine, separate the common code and assign it a range name. The subroutine is called in macro code by enclosing the subroutine range name is brackets, for example, {print}. It is a good idea to assign a meaningful name to the subroutine.

Examination of the macro code in _STAT shows that the programmer was a bit of a smart aleck. He assigned meaningless single letter range names to his subroutines. He may have wanted to save memory, but the savings using this technique are minimal.

You should take a look at all the spreadsheets in your 95LX. There is probably something that can be learned from each of them. Compare the overall styles and programming techniques. I think you will find that _EXPENSE is somewhat the odd one. The others appear to be very similar.

I have one suggestion that I think will significantly improve _STAT. Replace the menu that identifies the various macros on the spreadsheet with a macro menu invoked by pressing [ALT]-M. There is no reason to waste valuable worksheet display with a menu. Having only to remember the name of one macro, no matter what spreadsheet you are using, is also easier.

[Tom works for a natural gas pipeline company in Houston, Texas, and was one of the first to use PC's in the natural gas industry. He has been a regular contributor to support publications of Hewlett-Packard computers for many years. Tom's CompuServe ID# is [76011,3655].]

COLUMN: *Programmer's Corner*

Programmer's Corner

Ed reviews DERIVE, a 95LX program that solves symbolic mathematics, from algebra to calculus, as well performing numeric functions and plotting 2D and 3D graphs.

By Ed Keefe

DERIVE: A Mathematical Assistant for your HP 95LX

In 1982, Microsoft licensed and sold a program called muMath for the new IBM-PC. The program did something amazing for its day. It solved math problems, symbolically, on a microcomputer.

Eventually, Microsoft stopped selling muMATH and released it back to its authors at Soft Warehouse.

Since then, the program has been entirely rewritten, and renamed **Derive: A Mathematical Assistant for your Personal Computer.** Now, with Derive available for the HP 95LX, it is possible to put 2,000 years of math in the palm of your hand.

DERIVE on the HP 95LX

The HP 95LX version of Derive comes pre-installed on a ROM card. The card contains all the relevant files from the desktop version of the program. The card also contains two other programs: RAMCRAM which squeezes as much working memory out of the 95LX as possible and FORWARD.COM which lets Derive print on a parallel printer through the serial port of the 95LX, via a desk top computer. Derive does not run from ROM. It still must be loaded into RAM (System Memory) before it runs.

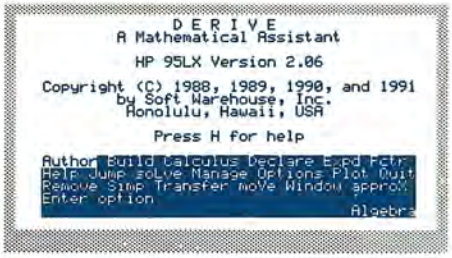
To get the program up and running requires at least 234K bytes of working memory. Any extra memory is used to hold data and intermediate results.

Derive is strictly a DOS application and, as such, will not pop up over any other program. As a matter of fact, when it's running, Derive takes over the entire computer.

The Look and Feel of Lotus

Derive uses a Lotus-like menu to perform its operations. However, Derive's menu system is just enough different to make using it slightly bothersome at first.

For one thing, Derive's menu is at the bottom of the screen rather than at the top. Also, the menu is always active. In addition, pressing tab key as well as the space bar will move the highlighter from one menu option to another. Like 1-2-3, you can also press capitalized letters to pick menu items.


D E R I V E
A Mathematical Assistant
HP 95LX Version 2.06
Copyright (C) 1988, 1989, 1990, and 1991
by Soft Warehouse, Inc.
Honolulu, Hawaii, USA
Press H for help
Author Build Calculus Declare Expd Fctr
Help Jump soLve Manage Options Plot Quit
Remove Simp Transfer moVe Window approX
Enter option
Algebra

DERIVE screen with Lotus-like menu

Pressing the right and left arrow keys doesn't change menu items as it does in Lotus. Rather, the right and left arrow keys make different parts of a math expression appear in inverse video. If there are no math expressions in the display and you press the arrow keys to choose a menu item, nothing will appear to happen. This different way of using the arrow keys takes some getting used to.

There is one other feature of Derive that takes some getting used to as well. For instance, there is no easy way to edit an incorrect entry.

In 1-2-3 you can press F2 (Edit key) and change a cell's contents. With Derive, to correct an entry, you use the arrow keys to highlight part of a math expression. Then you must choose the **Manage/ Substitute** menu-option, and enter the correction. Derive then makes a copy of the expression on a separate line. If you have several corrections to make, you wind up with multiple copies of the formula, each one slightly more correct than the previous one.

DERIVE Does Arithmetic

Derive not only does "symbolic math," it also crunches numbers — and how!

For example, if you ask Derive to "simplify" the factorial of 100 (i.e. 1*2*3*...*100) the program will quickly respond with the complete answer:

933262154439441526816992388562667004907159682643816214685929638952175999932299156089414639761565182862536979208272237582511852109168640000000000000000000000000

If you use the Derive function **PMT(10%/12, 2*12, 1200)** to compute the monthly payment on a two year loan for $1200 at 10% APR, you can have Derive give you an approximate or exact answer.

If you tell Derive to show an approximate answer, you'll get **55.3739**. However, if you tell Derive to "solve" the problem, you'll get a horrendous ratio:

970172337848721624022037156945110082 14~0348256092810 / 175203865814813182687621796945110082 14~034825609281

By default, Derive shows decimal quantities in a ratio format. This is a more accurate representation since it contains no rounding errors.

Derive achieves this remarkable accuracy without a math coprocessor.

DERIVE Does Algebra

To get a better idea of how quickly, or slowly Derive does symbolic algebra, I chose the classic, compound interest formula:

v*(1+i)^n+p*(1+i*t)*((1+i)^n-1)/i+ f=0

where **v** is the present value, **p** is the fixed payment, **n** is the number of periods, **i** is the periodic interest rate, and **f** is the future value.

(By default, Derive uses single letters to represent variables. If you wish, you can change this to use more meaningful names for variables.)

Having keyed in the formula, I told Derive to solve for each variable in terms of the others. Here are the results:

n=LN((p*(i*t+1)-f*i)/(v*i+p*(i*t+1)))/LN(i+1)
t=((v*i+p)*(i+1)^n+f*i-p)/(i*p*(1-(i+1)^n))
p=i*(v*(i+1)^n+f)/((1-(i+1)^n)*(i*t+1))(i*(v+p*t)+p)
***(i+1)^n+i*(f-p*t)-p=0**

(Timings for each solution:
n : 13 seconds:
t : 7 seconds:
p : 7 seconds:
i : 184 sec. (3+ minutes).

To see if Derive could handle a function made up of other functions, I declared the following two functions:

FX(x):=x^2+x+1

FY(y):=y^3-3*y+6

I put the two functions together in one function, **FXY(a,b):=FX(a)+FY(b)**. (I could have used x and y instead of a and b, but I wanted to see if I could confuse the program.) Then I entered the expression **FXY(3,2)** and told Derive to "Simplify" it. The correct answer, 21, appeared in less than a second. Next, I keyed in the expression **FXY(r,s)** and told Derive to Simplify that. The solution, **r^2+r+s^3-3*s+7**, appeared a couple of seconds later. Finally, I told Derive to solve this expression for "r". After 14 seconds here's what appeared:

$$r=-\frac{\sqrt{(3*(4*s-9)-4*s^3)}+1}{2}$$

Programming in DERIVE

The ability to create functions that use other functions is the tip-off that Derive contains the rudiments of a programming language. (A good description of a C program is "functions using other functions.")

Derive contains two special functions, ITERATES and IF(). These functions, along with a complete set

Call for Articles

In the first issue of *The HP Palmtop Paper*, we invited programmers and developers to write an article for The Programmer's Corner.

We know that programmers are busy people and that it takes time to draft a technical article for publication. Nevertheless, the invitation still stands. We'd really like to hear from other programmers, especially those who have tried their hand at designing System-Manager compliant programs for the HP 95LX. The kind of stuff we're looking for is the kind of stuff you wish you had read before writing a system-compliant program.

The guidelines for writing an article are simple. Express what you've accomplished in a straightforward manner. A small amount of commented code is acceptable. If the code is too long, we can print the highlights in *The HP Palmtop Paper*, and put the full source code on *The HP Palmtop Paper ON DISK*.

HP and Lotus have not fully documented the workings of the 95LX. However, such missing documentation has always been more of a challenge than a drawback for true hackers, right? Let us hear how you've accepted that challenge. Send article proposals to: *Ed Keefe, FastAid Company, 314 S.W. Logan, Ankeny, IA 50021; CompuServe ID: [75300, 3667]* or to: *Hal Goldstein, Thaddeus Computing, Inc, P.O. Box 869, Fairfield, IA 52556; CompuServe ID: [75300,2443].*

of logical and relational operators, make up Derive's small programming language.

To create a Derive program, you just build a set of related functions and save them in a file. It is possible to write programs in Derive. However, programming in Derive is not easy, and it's likely that everyone but die-hard enthusiasts will find it next to impossible to master this feature of Derive.

DERIVE Does Pascal?

If Derive is difficult to program, perhaps it could be used to help write programs in a standard computer language. One of the menu options hints that Derive will save a set of functions as a Pascal file.

To check this out, I chose the compound interest formulas, derived above, and saved them as a Pascal file.

I expected to get a Pascal program that could be tweaked, compiled and run. Not so. Instead of a Pascal program, here's what appeared in the file.

```
v:POW(1+i,n)+p:(1+i:t):(POW(1+i,n)-1)/i+f=0
n=LN((p:(i:t+1)-f:i)/(v:i+p:(i:t+1)))/LN(i+1)
t=((v:i+p):POW(i+1,n)+f:i-p)/(i:p:(1-POW(i+1,n)))
p=i:(v:POW(i+1,n)+f)/((1-POW(i+1,n)):(i:t+1))(i:
    (v+p:t)+p):POW(i+1,n)+i:(f-p:t)-p=0
```

Other than substituting Pascal's POW() function for Derive's "^" operator, very little coding was done by Derive.

Saving the same file as a BASIC and a Fortran file produced comparable results.

In short, Derive might be useful for converting extremely complex math formulae to Pascal code.

DERIVE Does Calculus!

If you're up to speed in Calculus, you can probably write down the solution to the following formula in a couple of seconds.

$$\int \frac{x}{a^2 + b^2x^4}\,dx$$

With Derive, the solution is available at the push of a few keys. Just choose **C**alculus **I**ntegrate from the menu and enter the expression.

When the integral appears, tell the program to simplify it. A couple of seconds later the answer will appear: **ATAN(b*x^2/a)/2*a*b.**

Now tell Derive to find the indefinite integral of x/(a^3+b^3* x^5) with respect to x. Once the process is started, you can go get a cup of coffee and read a chapter from the Derive User's Manual. Come back 8 minutes later to pick up the answer. The complete solution takes 25 lines to print. We won't do that here. Derive makes no claim at being fast, just accurate!

A Nuisance

Sometimes, as in the case of the 8 minute solution above, an expression will extend beyond the right side of the screen. At that point it becomes a real nuisance to try and see the missing information.

You can use the arrow keys to highlight parts of the equation and slowly display what you're missing.

To speed up the viewing process, you can switch the screen from graphics mode to text mode. The display won't look as neat, but it will give you access to the full 80 column screen.

Occasionally, even that won't help. The only recourse is to save the formula in a file and use an editor, and your knowledge of algebra, to write out the complex expression.

Beyond Calculus

Derive goes beyond calculus to give you a jump start at solving first and second order differential equations. Some solutions can be done exactly, while other solutions may be approximated through the use of other functions and series.

Derive comes with several "utility files" which contain add-in functions that extend the capabilities of the program. The functions include Bessel, Elliptic, Gamma, Fresnel, Legendre, Hypergeometric, Hermite, and Zeta.

UTIL Forth Version 2.4

The 95LX Toolkit For Programmers And Non-Programmers

Harness all the power of your 95LX with UTIL - a System Manager compliant implementation of the Forth language. Even if you are not a programmer, you'll make use of the sample programs that include games, music and useful utilities.

Create System Manager compliant loaders for your favorite DOS programs, or shell to DOS with a hot-key using the UTIL EXM loader. The easy-to-use patching tools let you set the Alt-Arrow and Cursor-Tracking functions for the loaded program. The package includes a comprehensive User's Guide and many source code examples.

UTIL includes a Forth compiler, 8086 assembler, decompiler and disassembler, to turn your 95LX into a portable software development system. Create compact, System Manager compliant executable applications and standalone .COM programs. Or use the tools to access the built-in graphics capability of your 95LX, explore memory and much more.

Here's what a few of the current users (who can upgrade to Version 2.4 for only $10) say about UTIL:

"The loader capability is a real bonus on the 95LX" • "Good job!"
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DERIVE Does Graphics

Without a doubt, the most fascinating part of Derive is its ability to produce graphs of extremely complex functions.

Not to take away from Derive's ability to plot 2-D graphs, but rather to show the power of HP CALC's Solve function, I took all 18 functions from Derive's PLOT2D.MTH demo file and imported them into Solve.

Solve was able to plot 12 of the 18 functions immediately. The other six contained hyperbolic and unsupported trig functions. Converting COSH, SINH, etc. to their exponential equivalents allowed Solve to plot those expressions as well. Furthermore, Solve has a much better interface when working with these types of graphs than does Derive.

Derive, however, is the only program that can produce 3-D plots on the HP 95LX. For example, the following graph was produced using the function **BESSEL_Y_ASYMP(n,z):= SQRT(2/(pi*z)) *SIN(z-(n+1/2) * pi/2).**

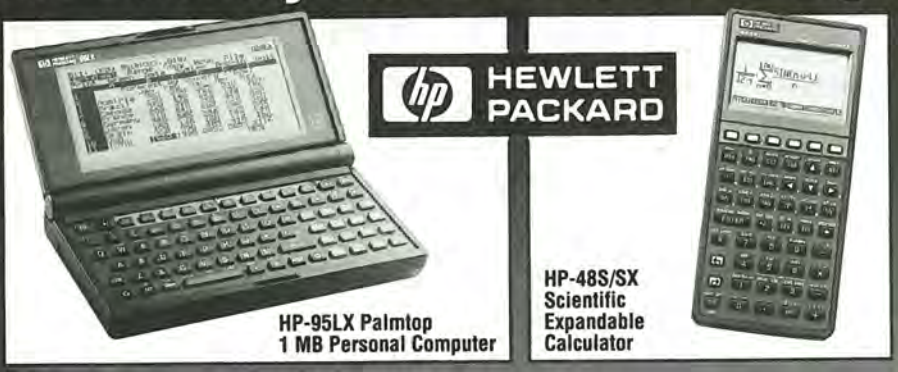
This is the ninth function in the BESSEL.MTH file. The Grids were set for 15 rows along the x and y axes. The graph was Centered at x=5 and y=0 and the Length settings were x=5 and y=10. It took about one and a half minutes to load the file and pick the function, another minute to set the plot parameters and approximately 3 minutes to produce the graph.

Sample DERIVE Graph

Who is DERIVE For?

If you're the kind of person who keeps threatening to relearn all the math you've forgotten over the past decade, then Derive will serve as a great learning aid.

Attention VARs, OEMs...Call Us for Factory Direct OEM Pricing!



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#82222A	Serial Cable, HP-95XL to Connectivity Pack
#F1003A	512K RAM Card
#F1004A	1 MB RAM Card
#F1005A	Dictionary/Thesaurus Card
#82222A	Serial Cable, HP-95XL to IBM-Compatible 3-pin to 9-pin
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Derive seems to be used most widely as an educational tool. Several books have been written to support Derive. They all have a classroom setting in mind.

The best of these books is *Exploring Math from Algebra to Calculus with Derive*, by Jerry Glynn, MathWare, 604 East Mumford, IL, 61801. (Jerry also runs an electronic bulletin board for Derive users.)

If you're an engineer or physicist who wants math functions in a palmtop format, then Derive may meet 80% of your needs.

Finally, if you're a programmer who does technical programming and want a way to check your algorithms for accuracy, then Derive will more than do the job.

If you're looking for C code that will let you have the numeric accuracy of Derive, without the learning curve of a new program, let me recommend BCALC. BCALC is a calculator program that gives accuracy of up to 1075 digits without recourse to a math co-processor. Its best feature is that it comes with complete source code for all its math routines. BCALC is available in the BPROGB forum on CompuServe.

If you have an HP 48SX calculator, hang on to it. Although the 48SX and Derive share many of the same capabilities, each has unique, positive qualities. I like the 48SX for its dedicated keyboard and Derive for its compact size and accuracy. Please don't ask me to choose one over the other.

Until next time, Happy Programming.

[Ed Keefe is an author, programmer, computer science instructor, and long-time contributor to support publications for HP computers. He is the president of the FastAid Company, 314 S.W. Logan, Ankeny, IA 50021. Ed's CompuServe ID# is [75300,3667].]

On The HP Palmtop Paper on Disk, Sep/Oct 92.

Getting Started: Files and FILER

In this issue we review fundamental concepts: File name, extension, data file, program file, path, directory, default. We apply this information by examining directories in FILER, by using the FILER HELP, COPY, DELETE, and RENAME function keys, and by considering file naming strategies.

By Hal Goldstein

In the last two Getting Started columns, we examined the two essential concepts an HP 95LX user must know to safeguard and organize his data: "Files" and "directories." Because these concepts are so fundamental, let's spend a little time reviewing them using a concrete example.

File Names

Suppose we took some meeting notes in MEMO. We wisely decide to save that information into a file by typing [MENU] File Save, followed by the arbitrary file name like **NOTES**. The file name could have been any eight-character name. The characters in the name could have been letters, numbers, or other special characters such as underline or dash (blank spaces not allowed). Examples of legal names include 12XYZ, BEAUTY, and MAIN_RPT.

Because we are saving notes from MEMO, the 95LX automatically adds the "file extension" .TXT to the name we give the file. In other words, NOTES is really saved as NOTES.TXT. If we had been in Lotus 1-2-3 and saved a file as BUDGET, 1-2-3 would have appended the extension .WK1 to it, making the file BUDGET.WK1. Similarly, the Phone Book application appends the extension .PBK to a saved file, and the Appointment Book, .ABK.

Actually, the absolute "real" name of the file contains its entire directory, or "path." The complete name of the MEMO file we saved above is not NOTES or NOTES.TXT, but **C:_DAT\NOTES.TXT**.

Whenever a MEMO file is saved, it automatically (by "default") gets saved to the HP 95LX's built-in subdirectory, C:_DAT. The 95LX also saves PHONE, APPT, and HP CALC files into C:_DAT. Lotus 1-2-3 files are by default saved into the "root" C:\ directory.

The Subdirectory and The Root Directory

The main directory built into the HP 95LX is known as the "root directory," and is denoted as C:\. Any directory can have within it two different types of objects: Files and additional directories (known as "subdirectories"). Subdirectories, in turn, can have within them files and subdirectories.

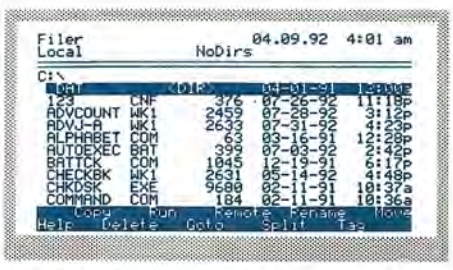
The HP 95LX comes with the C:\ root directory and a C:_DAT subdirectory built-in. Both C:\ and C:_DAT already contain files. (It also comes with a "hidden" directory, C:_SYS.)

There are two types of files, "data files" and "program files." When you save a document from MEMO or a spreadsheet from 1-2-3, you are creating data files (e.g. NOTES.TXT or BUDGET.WK1). A "program file" is an application or a program. For example, HPTRIS.EXE is the program file for the Tetris game included on the Subscriber's Disk, and CHKDSK.EXE is the DOS Check Disk program you'll find built in on the root directory (C:\) of your 95LX.

Looking at Files and Directories from FILER

Now let's enter the built-in FILER application by pressing [FILER] key. Examine the upper left of the FILER screen just below the double lines. FILER lists here the name of the directory or subdirectory you are currently viewing. You will probably see **C:**, the name of the root directory of your built-in C drive. (If you see another name, press [F5] **C:** [ENTER] to "Goto" the root directory. You should now see **C:** in the upper left.)

Now look under C:\ to see the list of subdirectories and files. FILER always lists the subdirectories before the files. If you haven't yet created subdirectories of your own, the first line below C:\ will list the _DAT subdirectory followed by <DIR> (indicating that _DAT is a subdirectory, not a file), followed by the date and time HP originally created the subdirectory. Your screen will look something like this:



FILER screen with _DAT subdirectory

Palmtop Training Classes

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Bring your own 95LX or test drive one (purchasable after class). HP-related products will be available to try out.

Intro to HP 95LX Seminar Schedule

Oct 9-12 - Los Angeles, CA	Nov 2 - San Francisco, CA
Oct 16 - Orlando, FL	Nov 6 - Iowa City, IA
Oct 21 - Boston, MA	Nov 11 - Kansas City, MO
Oct 23 - New York, NY	Nov 13 - Dallas, TX
Oct 28 - Philadelphia, PA	Nov 20 - Denver, CO
Oct 30 - Chicago, IL	Nov 27 - London, UK
Classes 9am - 5 pm	**Tuition: $295/day**

Call for additional cities and dates or for Custom Group Sessions

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(Washington, DC) 800-487-5040

The first column in FILER always contains the name of the directory or file (up to 8 characters). The second column contains the file or directory name extension. Even though the FILER screen shows one or more blank characters between a name and its extension, the correct filename consists of the up-to-8-character name, followed by a period, followed by the extension. (e.g. CHKDSK.EXE). There are no spaces in between!

Now, move the cursor to _DAT and press [ENTER] to reveal a whole new world of files. The upper left part of the FILER screen indicates that we are now in the C:_\DAT subdirectory. Listed on the screen are the files in the C:_DAT subdirectory.

Filer 04.09.92 4:00 am
Local NoDirs
C:_dat
►View Up◄
1000 PCX 4419 03-04-91 8:57a
AC PBK 4467 05-07-92 1:12a
APNAME LST 231 06-15-92 2:30p
APPTBK ENV 16 09-04-92 2:55a
CALC ENV 2268 09-02-92 1:29a
CHESS CNF 68 06-27-92 11:37a
CLOCK TXT 89 06-11-92 1:25p
COMPUSRV DCF 71 02-05-91 12:00a
HEARTS CNF 220 06-05-92 3:14p
Copy Run Remote Rename Home
Help Delete Goto Split Tag

FILER screen, in _DAT subdirectory

Upon entering the C:_DAT subdirectory in FILER, the highlight bar rests on the first line below C:_DAT (the one with two periods {..} followed by ► **View Up** ◄. The two periods at the beginning of that line stand for the "parent" directory, in this case, the C:\ root directory. Press [ENTER] when the cursor is on the two dots, and FILER moves us back to the C:\ root directory.

If we had saved our MEMO file as NOTES, we would find NOTES.TXT in the C:_DAT subdirectory. As we mentioned earlier, the full filename would include the path, and be C:_DAT\NOTES.TXT. This name contains complete information about the file: Its name, extension, and path (where the file is stored).

FILER Commands

Once we have a clear understanding of how files are named and stored, we can make full use of the built-in FILER program.

As with all the built-in applications, we can get a quick intuitive overview of what FILER can do by simply examining the function key labels at the bottom of the main FILER screen, and by pressing the MENU key. For the remainder of this article, let's first look at a few of the function key labels at the bottom of the FILER screen.

FILER [F1] Help – As in the other built-in applications, the F1 key provides help. Here is excellent advice whenever you run any application on any computer: Always study the computer screen for the instructions it provides. Secondly, form the habit of exploring and utilizing an application's help facility, even if you don't always understand what is being said. In complex programs such as Lotus 1-2-3, the help facility is invaluable and saves lugging around a huge Lotus manual.

One hint in exploring FILER's help facility: After pressing [F1] Help, move cursor to **Filer commands** or **Function keys** by pressing the Down Arrow key two or three times. Then press [ENTER].

FILER [F2] Copy – The F2 key allows you to copy files. There are many reasons you might want to do this, but I'll list just two here as examples.

First, you could create a MEMO "template." This is a file with some standardized text or formatting you intend to use over and over. Let's say you create a correspondence template consisting of a few blank lines followed by the word "Dear," followed by a few more blank lines, and ending with your name, address, phone number, and fax number. You save this template in MEMO with the name LETFORM.

You can use the template by entering FILER and pressing [F2] to make a copy of LETFORM. You are then prompted to **Copy 'letform' to:**. Type a new name, say, **LETJOE**. Then go to MEMO and retrieve LETJOE. You can write your letter to JOE without having to bother typing your name and address, phone and fax.

Another essential use for the F2 Copy key is in backing up your files. For example, suppose your phone book is saved in the C:_DAT subdirectory as MAIN.PBK. You can back this up on your RAM card (if you have one) by entering FILER and moving your cursor to MAIN.PBK in your C:_DAT directory. Then press [F2], type **a:**, and press [ENTER]. Your phone book would now be copied to your A drive. If anything ever happened to your built-in C drive, you would have a backup of your phone book as of the last time you used the F2 Copy command to back up MAIN.PBK.

If you don't have an A drive, you can make a copy of your phone book to the C root directory by pressing [F2], typing **C:**, and pressing [ENTER]. This method is not as safe as copying a file to the A drive, since you would lose both the main and backup PHONE files if the C drive gets corrupted. However, this method still protects you from inadvertently destroying or corrupting your main phone book in C:_DAT. The backup on the C:\ root drive could save the day.

FILER [F3] Delete – Suppose you no longer needed the NOTES.TXT file that we created in MEMO earlier – space on the 95LX is precious. To delete NOTES you would simply move the cursor to NOTES.TXT and press [F3] Delete.

FILER [F8] Rename – Suppose you use the HP 95LX to regularly take notes at three different meetings: Your staff meeting, project meeting, and an investment club meeting. You keep these notes in three separate files: STAFF.TXT, PROJECT.TXT, and INVEST.TXT.

Later on you decide to develop a more consistent naming convention for your note files. You want to change the name of STAFF.TXT to MEETSTF, PROJECT to MEETPROG, and INVEST to MEETINV. To rename STAFF, for example, go into FILER and move your cursor to **STAFF.TXT**. Then press [F8] to rename, type in **MEETSTF.TXT** and press [ENTER].

In future issues, we will continue to look at how FILER can help us organize and safeguard the precious work that we perform on the HP 95LX.

(LETTERS:
Continued from page 4.)

(page 7) about opening up your 95LX. If you pry the case apart as suggested "between" the 'MENU' and '+' keys, you run the risk of damaging the flexible cable just inside. I did and it cost me $183.18 to repair the 95LX. It would be better to pry just outside of these keys, in the area of the alignment pins for the connector.

William W. Heathorn
Folsom, CA, USA

PRT95

You have written that a shareware program called PRT95 by Todd Cary can print the Phone Book in a variety of formats *(see July/August issue, page 5, response to item 2 of "Some Questions").*
How can I contact him? Please note that I have no modem.

Ahmet G. Ozisik
Istanbul TURKEY

[The software, PTR95-.ZIP, is available on the July/August issue of *The HP Palmtop Paper ON DISK*, or directly from *Ariste Software, 1523 Fifth Avenue, San Rafael, CA 94901, USA; Phone 415-459-1519; CompuServe ID: [73027,3067].*]

Using BATTman with the Subscribers Disk

I had some initial difficulty using the 1992 Subscribers Disk on my 95LX. I had installed the BATTman battery management program (ACE) before I received my disk and was using Stacker on my A drive (RAM card). I also had been using Drive95. I made these discoveries:

1. I had to have the Drive-95 device statement before the Stacker device statement in CONFIG.SYS in order for the hot keys to operate.
2. I had to install BATTman and ask it to bypass the setup screen upon Reboot. I had to use command line options at setup and add a line as the last TSR on the AUTOEXEC.BAT.

I hope this is useful to some of our friends.

I also would like some help. I come from Kuwait and in the Middle East, Saturday is the first day of the week. Maybe someone knows a way to change WEEKABK, which only recognizes Sunday and Monday as possible first days of the week.

Adnan Al Bahar
London, UK

LEO on the HP 95LX

Not many 95LX users have heard of LEO. It is a scientific text editor with a TeX file as its output. Thanks to Everett Kaser, who gave me the correct parameters, I have succeeded in loading LEO on my 95LX. I can now write real math formulas on my 95LX, and have them output as TeX files.

You need to load FASTLEO.EXE, LEO.CFG, and the font files from the V350 directory to the 95LX. Then retrieve LEO.CFG (the LEO configuration file) into MEMO and add the following line:

```
VIDEO=MODE20;128;240;B000.
```

You need to do this through MEMO or another text editor, not through LEOSETUP (the LEO setup program), which will not accept these parameters. I also found that I needed to increase the right margin.

The only drawback is that the LEO menus are too large to read, so I keep a reduced photocopy of them in my pocket.

LEO is sold by: *ABK Software, 4495 Ottawa Place, Boulder, CO 80303; USA; Phone: 303-494-4872.*

Massimo Ferri
Dept. Mathematics,
U. Bologna, ITALY

GWBasic v 3.23 on the 95LX

I have used MS Basic for many years so when I recently got my 1MB 95LX I wanted to use it on the Palmtop. Using PKLITE I reduced GWBASIC.EXE to 64.5K. I transferred the file to my BIN directory and it seems to work within limits.

The graphics and sound statements do not work, but screen and color commands are OK. I use screen 0 and color n,0 yields the following for n... (8=blank, 9=underline, 10= normal, 25=blink underline, 26= blink). In addition, color 8,7= inverse and color 16,7= blink inverse.

Locate commands work, so cursor position is OK.

The function keys work normally for LIST, RUN, LOAD, SAVE, etc., but the line editing fails (perhaps due to odd cursor keys or screen control).

Emmet Jones
Corvallis, OR, USA
CompuSrv: [971750,1226]

Derive

I bought DERIVE and have thoroughly enjoyed it. I wish it were system compliant, but am nevertheless enormously pleased with it. It's been a real learning experience to work with this unusual program. With its built-in intelligence, it may or may not do what you want; it tries to guess and often guesses right, but not always. When it doesn't, it may still be possible to coax it. It's an experience, I tell you.

The 2 and 3-dimensional graphing is at least as much fun as any game, and can be quite instructive. I never realized just how interesting is the simple function f(x,y) = x^y until I tried graphing it.

[See page 48, this issue, for more on Derive — Hal.]

Other Language Versions of Connectivity Kit?

My primary language is Spanish, but I bought the English version of the HP 95LX. Since my English isn't that great, I want to buy the Spanish version of the HP Connectivity Kit.

The dealer I purchased my 95LX from says he's never heard of these foreign language versions of the kit and requests that I send him the HP part number of the Spanish version so that he can order it.

I can't seem to get the information from Hewlett-Packard. I wonder if you could find out the part number for the Spanish, and other language versions of the HP Connectivity Kit and print them in an upcoming issue of *The HP Palmtop Paper*?

Iván Villamil-Morel
Washington, D.C., USA

[As far as we know, there are no other language versions of the HP Connectivity Kit — Rich.]

Calendar Supplement
for the *hp*95

Important dates worldwide:
- Lunar, Solar, and Time Zone days
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- Traditions/gifts
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$25 includes floppy disk, on-line manual, 1 year of calendars, and database program with built-in system utilities.
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Possible to Change Date Sequence on International 95LXs?

I have an International English 95LX (serial prefix ABB). How do you set the date sequence to be DD/-MM/YY when viewing files in the filer? Can it be done without creating an AUTOEXEC.BAT file? If not, HP should put it on their list of things to do.

Gary Oliver
Milsons Point NSW, AUSTRALIA

Drive95 Problems with 1MB 95LX?

Since switching to a 1MB 95LX I find that I have difficulty going from FILER to DOS when I'm also using Sparcom's Drive95. If I go to DOS and then try to go back to the FILER with "EXIT" or "ROM.BAT", it takes a very long time to finally get back to FILER. When I use the 512K version of the 95LX, it goes back to FILER right away. The same FILER-to-DOS delay happens when I'm using a CONFIG.SYS file on the 1MB 95LX, (but again, not on the 512K! Any suggestions?

I have another problem with Drive95. Its user documentation says that I can backup the 95LX from FILER to Drive95, tagging the desired files and copying them over. But I don't understand how this is possible, since Drive95 is seen as the G drive, and this can only exist outside of SYSMGR? Do I have to register DRIVE95.SYS (Drive95's device driver) in the APPCOM list for it to be able to have Drive G and FILER open at the same time?

A closing warning! The other night I fell asleep working and my wife moved my 95LX to an armchair. When I wake up, the main batteries were dead because I fell asleep without putting the 95LX back to FILER after having connected it to Drive95. Always put the 95LX out of backup mode - before falling asleep, or leaving the 95LX.

Alfred Herz
Monterrey, MEXICO

[Use [F7] to Split the screen in FILER. Then press [F5] G: to "Goto" the G drive in FILER – Hal.]

Velcro's 95LX to Car Dashboard; Still Waiting for Mac Connectivity Kit

I've been using the HP 95LX at home and on the road since last October and have found it to be quite an amazing piece of hardware.

I had to chuckle a bit the first time I took my HP through the metal detector, and the security officer asked me what it was and why I had a strip of Velcro on it. I showed her that it was a PC and told her the Velcro was used to attach it to the dash of my car. She smiled and said okay!

I'm in charge of a computer center and use a Mac. My corporate life has been changed with this little box since I tossed my Day-Timer. (Boy was that scary!)

I've been using the HP Connectivity Pack on my Mac running a PC emulation package called Soft-AT. It runs quite well and allows copying and pasting if you have at least 8MB of RAM.

Fred Dugach
Cleveland, OH, USA
CompuSrv #: [70375,1401]

THIRD PARTY PRODUCTS: *What's New?*

New Non-HP Products designed to work with the HP 95LX

By Richard Hall and Hal Goldstein

In the last five issues we have listed over 200 hardware and software products, and other 95LX-related services already available from third-party manufacturers and developers. We will continue to list 95LX hardware, software, books, videos, training, and services as we discover them. Vendors should send us information.

Hardware

Cases

EC-95 Environmental Case

This durable aluminum case is suitable for those using the 95LX in harsh environments. It provides sealed protection from the weather, dust, and shock, while allowing the HP 95LX to remain operational. Includes a puncture-resistant polyurethane keyboard membrane, standard 9-pin serial port, auxiliary power port, and an intelligent charge circuit with timer. High-capacity NMH battery available.

Availability ..... NOW
Pricing $300
CONTACT: *CSS, 919 NE Second Street, Corvallis, OR 97330, USA; Phone: 800-733-5017 or 503-752-4419; Fax: 503-752-7037.*

Wallet Carrying Case

Made of premium men's wallet leather with shiny brass corner guards, this case holds credit cards, memory cards, notes, checks, and your 95LX. Velcro holds case closed.

Availability ..... NOW
Pricing (#2638) $43.95
CONTACT: *EduCALC, 27953 Cabot Road, Laguna Niguel, CA 92677, USA; Phone: 800-677-7001 or 714-582-2637; Fax: 714-582-1445.*

RAM Cards & Drives

4Maker

4Maker is a 4MB SRAM Memory Card that comes with a pre-installed software program that lets the 95LX access the card. This is a 4MB card, not a 2MB card with file compression software.

Availability ..... NOW
Medium ..... 4MB SRAM Card
Runs under SysMgr ..... Yes
Price ..... (Call)
CONTACT: *Altec Electronic GmbH, Vahrenwalder Str. 205/7, D-3000, Hannover 1, GERMANY; Phone: +49 511-63088-36; Fax: +49 511-63088-49.*

Flash Filing System Software

Software for your PC that enables FLASH memory cards to emulate a floppy disk under DOS and other operating systems.

Availability ..... NOW
Media ..... Floppy disk (for desktop PC)
Pricing ..... Call
CONTACT: *SCM Microsystem GMBH, Fraunhofer Str. 11A, D-8033 Martinsried, GERMANY; Phone: +49 89 8598702; Fax: +49 89 8595806.*
USA CONTACT: Computer Modules, Phone: 408:496-1881; Fax: 408-496-1886.

Memory Cards and Drives

SCM Microsystem of Germany offers a number of memory card related products, including 128K to 20MB FLASH, 128K to 4MB SRAM, and EPROM cards, and internal

and external memory card drives for your desktop PC.

Availability ..... NOW
Pricing ..... Call
CONTACT: *SCM Microsystem GMBH, Fraunhofer Str. 11A, D-8033 Martinsried, GERMANY; Phone: +49 89 8598702; Fax: +49 89 8595806.*
USA CONTACT: Computer Modules, Phone: 408:496-1881; Fax: 408-496-1886.

Memory Card Drives

Designed for desktop computers, these drives fit in a standard 3.5" floppy disk drive bay. Comes in one and two card slot models. Includes 8-bit adapter card.

(Contact end of next product.)

Memory Card Designer's Kit

Includes a guide to memory card system design, example software, a universal memory card drive with 68-pin connector (internal), a 512K SRAM, and 512K Flash ROM card.

Availability ..... NOW
Pricing
One card drive $395
Two card drive $690
Designer's Kit $595
CONTACT: *Adtron Corp., 128 West Boxelder, Suite 102, Chandler, AZ 85224, USA; Phone: 602-926-9324; Fax: 602-926-9359.*

Memory Card Drives

External and internal card drives for your desktop PC. These drives let your desktop read your 95LX memory cards, and facilitate data transfer and backups. The internal card drive can accept up to 4MB of Flash memory for additional file storage capacity.

Availability ..... NOW
Pricing
EMCD-P: an external drive with parallel port interface $380
MCD2B-Fd: an internal drive with room for up to 4MB of additional Flash memory (MCD2B-FD) ... $810
1MB Flash Simm module for internal drive $165
CONTACT: *Computer Modules, 2350A Walsh Ave., Santa Clara, CA 95051, USA; Phone: 408-496-1881; Fax: 408-496-1886.*

Modems & Accessories

Konexx Koupler Acoustic Coupler

The Konexx Koupler Model 203 is a battery-powered acoustic coupler that is used to connect computer modems to the telephone system via the telephone handset. The Koupler allows consistent data transmission speeds up to 9600 baud. A 9 volt battery powers the Koupler for up to 30 hours of modem use. The package includes RJ-11 modem connection and an R-type adapter.

Availability ..... NOW
Pricing $149
CONTACT: *Unlimited Systems Corp. Inc., 5555 Magnatron Blvd, Suite J, San Diego, CA 92111, USA; Phone: 800-275-6354 or 619-277-3300; Fax: 619-277-3305.*

Light Top Acoustic Coupler

Light Top is a battery-powered acoustic coupler used to connect computer modems to the telephone system via the telephone handset. It weighs less than 5 ounces and is powered for 40 hours of use with 4 AAA batteries. Light Top allows data transmission at speeds from 2400 to 9600 bps.

Availability ..... NOW
Pricing $145
CONTACT: *Com1 Data Communication Corp., 5120 Avenida Encinas, Suite C, Carlsbad, CA 92008, USA; Phone: 800-289-2661 or 619-431-5606; Fax: 619-431-5744.*

Wireless Communication

The Data-Lite Portable Satellite Terminal

Data-Lite is designed to connect the 95LX user to the INMARSAT-C satellite system, providing 95LX users a worldwide data link to send and receive information.

Availability ..... NOW
Pricing $10,000
CONTACT: *Mobile Telesystems, Inc., 300 Professional Dr., Gaithersburg, MD 20879, USA; Phone: 301-417-6210; Fax: 301-590-8558.*

PagerPac

This software runs on an IBM AS/-400 multi-user computer, and allows users of the AS/400 to send messages, schedules, spreadsheets, and other data through an information service to the 95LX via a mobile receiver like the HP SkyStream or the Motorola NewsStream Receiver.

Availability ..... NOW
Runs under SysMgr ..... Not for 95LX
Pricing ..... $Call
CONTACT: *Business Partner Solutions, Inc., 2 Salt Creek Lane, Suite 214, Hinsdale, IL 60521, USA; Phone 708-323-9292; Fax: 708-323-9330; Phone: (as of Oct 15) 800-645-BPSI.*

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COMPLETE SYSTEM :	LIST
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Software

Aviation

LapMap

LapMap is a moving map display for pilots. Attaches your 95LX to your on-board Loran or GPS receiver and LapMap shows where you are, where you will be, and your projected ground track relative to airports, navaids, and special use airspace. LapMap supports several models of Loran and GPS receivers.

Availability ..... NOW
Medium ..... ROM Card
Runs under SysMgr ..... No
Pricing $495.00
CONTACT: *Peacock Systems Inc., Civil Air Terminal #325, Bedford, MA 01730, Phone: 800-533-1012 or (617) 274-8218; Fax: (617) 274-8130.*

Built-in Applications Ad-ons

Abkrp and Abkasc

Abkrp translates 95LX Phone Book (PBK) files into an 80-column report on the default printer or a formatted ASCII data file which can be modified with any text editor.

Abkasc translates 95LX Phone Book (PBK) files into an 80-column, comma delimited, ASCII data file suitable for use with a database program. The Abkasc-created records contain all the HP data fields, plus two fields which can be used to create indexed database records.

Availability ..... NOW
Medium ..... Floppy disk
Runs under SysMgr ..... No
Pricing (each) $15
CONTACT: *UniSource, Inc., 671 Cedar Street, Longboat Key, FL 34228, USA; Phone: 813-383-0194; Fax: (same, evening hours). Also available on the HPHAND forum of CIS.*

Calendar Supplement for the HP 95LX

This supplement to APPT's calendar lists holidays and important dates worldwide; lunar, solar, and time zone days; national holidays for over 150 countries; religious holidays for 6 major religions; zodiac days and more. Know the important days in the country you are visiting.

The calendar Supplement also performs database operations; merge, append and delete calendars; choose, include, and remove entries, works on the 95LX's calendars and phone books. Includes system utilities for battery life, file protection, and more. Includes manual, floppy disk with system utilities, calendar databases, calendar and phone book control program, menu interface.

Availability ..... NOW
Medium ..... Floppy disk
Runs under SysMgr ..... No
Pricing $25
CONTACT: *ASP, P.O. Box 81270, Pittsburgh, PA 15217, USA; Phone: 412-422-4134; Fax: 412-422-4135.*

Connectivity

Macintosh Connectivity Kit

Transfers ASCII and Mac personal information manager data between the 95LX and the Mac. Includes translators for PowerUp Software's Address Book Plus, PowerUp CaLaNdar, Claris Hypercard, Portfolio Systems' Dynodex, and Borland Sidekick for Macintosh. Includes Mac to 95LX cable.
[See Advertising, page 26-27.]

Availability ..... Sept 15, 1992
Medium ..... Floppy disk
Runs under SysMgr ..... No
Pricing $89.95
CONTACT: *Sparcom Corporation, 897 NW Grant Ave., Corvallis, OR 97330, USA; Phone 800-827-8416 or 503-757-8416; Fax: 503-753-7821; CompuServe ID: [75320,2440].*

Database

EFMS

Everyone's File Management System is a flat file database. EFMS has user defined screens, indexes, simple report generation, and up to 32,700 records/file.

Availability ..... NOW
Medium ..... Floppy disk
Runs under SysMgr ..... No
Pricing $39
CONTACT: *Charles Kingston, Box 564, Elmsford, NY 10523, USA; Phone: 914-949-7870.*

Mileage

Database program that tracks car mileage, remembers previous routes for reuse, and keeps a running total of mileage and expenses.

Availability ..... NOW
Medium ..... Floppy disk
Runs under SysMgr ..... No
Pricing $35
CONTACT: *Genus Software Corp., 1625 Richards St., Salt Lake City, UT 94115, USA; Phone: 801-487-6220.*

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Educational

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A series of twelve modules for students, parents and adults that cover the basic concepts and computations involving whole numbers, whole numbers bases, fractions, decimals, measurements, percents, integers.

Each module consists of a manual that contains all the study hints, terminology, definitions, concepts, methods, model problems and exercises necessary to master that module's topics. User-friendly software on disk provides an endless amount of easy-to-use drill problems for practice and reinforcement.

The following modules are available: Whole number basics; Whole number operations; Whole number base basics; Whole number base operations; Fraction basics; Fraction operations; Decimal basics; Decimal operations; Measurements; Percent basics; Percent problems; Integers.
[See Advertising, page 32.]

On The HP Palmtop Paper on Disk, Sep/Oct 92.

Availability ..... Oct. 1, 1992
Medium ..... Floppy disk
Runs under SysMgr ..... No
Pricing (each module) $49.95
(Available for moet popular computers and calculators.)
CONTACT: *E.Z. Software, P.O. Box 500, Midwood Station, Brooklyn, NY 11230, USA; Phone: (718) 434-2304.*

Financial / Real Estate

LiveLine-HP

LiveLine-HP is a realtime quote display service which monitors all U.S. equities, indices, futures and options. Displays 30 issues on your screen, plus a quote line to access any issue's price. Running ticker displays, trade price, and volume. Portfolio system includes total profit/loss and market value. Hourly intra-day rankings of most active issues, percentage gainers, losers and historical graphs are also included. Software includes Kermit (comm program). Must have an 95LX and a 1200/2400 baud modem.

Availability ..... NOW
Runs under SysMgr ..... No
Pricing: Minimum $25 per month. $6 per hour in Chicago metropolitan area, $9.75 elsewhere in the USA.
CONTACT: *National Computer Network, 1929 N. Harlem Ave., Chicago, IL 60635, USA; Phone: 312-622-6666; Fax: 312-622 6889.*

Running TOTAL

Running TOTAL software comes with Grand TOTAL, real estate appraisal generations software for desktop PCs. Running TOTAL allows on-site appraisal data collection, walking the user through the questions on a URAR appraisal form. On-screen prompts can be answered with single-key responses. Warnings are given if "critical" items are left blank. Data is then downloaded into a desktop PC running Grand TOTAL.

Availability ..... NOW
Medium ..... Floppy disk
Runs under SysMgr ..... No
Pricing Grand TOTAL (with Running TOTAL for the 95LX) $995
CONTACT: *a la mode, inc., 1015 Waterwood Pkwy, Suite F, Edmond, OK 73034, USA; Phone: 800-252-6633 or 405-359-6587; Fax: 405-359-8612.*

Health Related

Assurance Kinetics™

This service assists pharmacists or physicians in calculating proper dosages and tracking dosing schedules of 20 commonly monitored drugs (gentamicin, theophylline, digoxin, etc.). Software programs contain the latest findings in pharmacokinetic research. Also includes 24-hour consulting service.

Availability ..... NOW
Medium ..... RAM Card
Runs under SysMgr ..... Yes
Pricing (software and training) $1,850
CONTACT: *Data Med Clinical Support Services (see contact below).*

Assurance Nutrition™

This service provides precise enteral and parenteral nutritional analyses for pharmacists or dietitians. Includes software for analyzing and assessing patient data. Includes the latest findings in nutritional research and 24-hour consulting.

Availability ..... NOW
Medium ..... RAM Card
Runs under SysMgr ..... Yes
Pricing (software and training) $1,850
CONTACT: *Data Med Clinical Support Services (see contact below).*

Point-Of-Care Software™

This product allows 95LX users to interface with other PC-based software systems from Data Med and is only useful with those systems. The following Modules are available:

Availability ..... NOW
Medium ..... RAM Card
Runs under SysMgr ..... Yes
Pricing for Point-of-Care Software™ with:
Assurance Homecare System™ $850
Assurance Long-Term Care System™ $850
Assurance Nursing System™ $850
Assurance Respiratory System™ ... $850
Assurance Rehabilitation System™ . $850
CONTACT: *Data Med Clinical Support Services, 2331 University Ave., SE, Minneapolis, MN 55414, USA; Phone: 800-STAT-911 or 612-378-2930.; Fax: 612-378-2930.*

Manager's Assistant Departmental Information System

Manager's Assistant software turns the 95LX into a point of care patient data collection device for respiratory, physical and occupational therapists.

Availability ..... NOW
Medium ..... Floppy disk
Runs under SysMgr ..... No
Pricing $1,595
CONTACT: *MediServe Information Systems Inc., 1615 West University Dr., Ste 138 Tempe, AZ 85281, USA; Phone: 800-279-8456 or 602-966-6800; Fax: 602-966-6735.*

Medical Rounds

Menu-driven information organizer that provides a physician with up-to-date patient data wherever he or she may be. Stores patients' personal and admission information, admitting and referring physicians and insurance carriers data, abbreviated medical histories, allergies, and patient care notes. Medical Rounds tracks the time spent with each patient. It captures patient charges for services provided, including a program for determining the new physician evaluation and management services CPT codes.

Medical Rounds comes with an HP version with full user documentation, as well as a PC version on floppy disk.

Availability ..... NOW
Medium ..... ROM
Runs under SysMgr ..... No
Pricing $399
Demo disk $25
CONTACT: *The Medical Mind, 897 Poplar Church Road, Camp Hill, PA 17011, USA; Phone: 717-737-2550; Fax: 717-763-0768.*

Pocket RD 11

This nutrition software for nutrition, health and fitness professionals calculates, sorts, organizes, and graphs clinically relevant data, and prints client and personal reports. It includes 12 program sections: Weight loss, exercise analysis, body composition, nutrient analysis with more than 5,000 foods, diabetic and renal calculations, enteral and parenteral nutrition, and many equations on determining appropriate nutrient intake levels.

Availability ..... NOW
Medium ..... Floppy disk or ROM Card

Easy Printing From Your Palmtop!

The GA935 Printer Converter lets you print directly from your HP 95LX on virtually any parallel printer. It uses the standard HP cable.

The Printer Converter is battery powered and totally portable.

Available from most HP dealers. For your nearest dealer contact:

Tel: (704) 376-1021
Fax: (704) 335-8707
Toll Free: 1-800-476-4070

Runs under SysMgr ..... No
Pricing (floppy disk version) $279
ROM Card version $379
CONTACT: *Poly-Bytes Inc., P.O. Box 770070, Coral Springs, FL 33077, USA; Phone: 305-344-0501; Fax: 305-344-0522.*

PVT Terminal

The PVT (patient visit translator) Terminal software turns the 95LX into a pocket sized data collector that assists the physician in recording procedures and services with patients. The software will suggest the appropriate 1992 Evaluation & Management CPT code for billing purposes. Specialized CPT code modules are available additionally for OBGYN, pediatrics, and cardiology, with others in development. Customized orders will be honored.

Availability ..... NOW
Medium ..... RAM Card
Runs under SysMgr ..... Yes
Pricing $499
Specialized CPT modules $200
(minimum order, or $2 per code)
CONTACT: *JA-DE-JA Inc., 600 Fairmount, # 305, Towson, MD 21286, USA; Phone 800-272-3590 or 410-296-4117; Fax: 410-296-2422.*

Personal Info Managers

Keep In View

Keep In View (KIV) is a full-featured Personal Information Manager (PIM) specifically designed for the HP 95LX. KIV is a cross between an outliner and a free-form database. It is an information organizer based on the concept of an office filing cabinet.

KIV can be used for virtually any text or data based application including note taking and outlining. A special reference field allows you to associate a particular entry with a key word. This feature makes KIV suitable for project management applications. Other features include file import and export, printing, searching, and on-line help.

Availability ..... NOW
Medium ..... Floppy disk
Runs under SysMgr ..... Yes
Pricing $69.95
CONTACT: *Lucid Corportation, 101 West Renner Road, Suite 450, Dallas, TX 75082, USA; Phone: 800-92LUCID or 214-994-8100; Fax: 214-994-8103.*

Specialized Products

FieldWritR

This product is the field component of ReportWritR, a generic inspection management system. FieldWritR accepts downloaded inspection schedules, collects information, cites violations, prints site reports and uploads results to the main program running on a PC. FieldWritR must be used with ReportWritR.

Availability ..... NOW
CONTACT: *Digital Inspections, a division of XENERGY, 800 NW Starker Ave., Suite 48, Corvallis, OR 97330; Phone: 503-752-7233; Fax: 503-758-3666.*

MicroCoach

Football game statistics software 95LX. Includes offense and defense stats, as well as computer aided tactics for play selection.

Availability ..... NOW
Medium ..... Floppy disk
Runs under SysMgr ..... No
Pricing $149
CONTACT: *Micro Information Services Inc., 215 Islip Ave., Islip, NY 11751, USA; Phone: 516-277-6737; Fax: 516-277-0509.*

System 95 Survey Card

Turns the 95LX into a complete data collection and field geometry device for surveyors. Functions include data collection; off-center shots; multiple readings for angles and distances; offset, radial and slope stakeout; survey adjustment, sunshots; horizontal, vertical, and spiral curves; earthwork; triangle solutions; and more. Connects to any Total Station via special cable (not included) for downloading data.

Availability ..... NOW
Medium ..... ROM Card
Runs under SysMgr ..... No
Pricing $695
Total Station connector cable $75
(specify type of Total Station)
CONTACT: *Tripod Data Systems, 1853 SW Airport Road, Corvallis, OR 97333, USA; Phone: 800-426-8026 or 503-753-9322; Fax: 503-757-7439.*
Or: *EduCALC, 27953 Cabot Road, Laguna Niguel, CA 92677, USA; Phone: 800-677-7001 or 714-582-2637; Fax: 714-582-1445.*

Upgrades, Updates, Corrections

DERIVE Version 2.5

A new version of Soft Warehouse's "Mathematical Assistant" software provides more algorithms for solving equations, factoring polynomials, integrating expressions, and algebraically simplifying expressions. A new pseudo-random number generator has been added, along with the abililty to import, analyze, and plot raw numeric data generated by instrumentation, spreadsheets, databases, and other programs. The new version automatically selects the appropriate technique for solving first and second order ordinary differential equations in a single step, and expands support for higher-level special functions.

This ROM card version can be uploaded to run on a desktop PC.

Availability ..... NOW
Medium ..... ROM card
Runs under SysMgr ..... No
Pricing (new) $289
Upgrade ..... varies, call
CONTACT: *Soft Warehouse, Inc., 3660 Waialae Ave, Suite 304, Honolulu, HI 96816, USA; Phone: 808-734-5801; Fax: 808-735-1105.*

APPLICATION BUILDER
FOR THE HP 95LX

With QAPalm you can create custom data collection and viewing applications for your palmtop on your PC without programming. Uses an easy screen painting approach. Transfers data to dBase and Lotus 123 formats. Demo available.

QA SYSTEMS, INC.
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1 800 945-1717 / 212 599-1717
Fax 212-599-2614

New Media Corporation — Correct Phone Number

The number listed on page 40 of the July/ August issue is wrong. The correct phone numbers are: 800-453-0550 or 714-453-0114; Fax; 714-453-0114.

Personal Computer Systems — Correct Phone Number

The phone number listed on page 40 of the July/August issue (LoanSTAR contact) is wrong. The correct number is 503-665-6990.

Memory Card Associates Take Over Palmtop Resources

All products and services previously offered by Palmtop Resources (see Jul/Aug issue, page 42) are now offered by Memory Card Associates, 241 Curtner Ave. #Q, Palo Alto, CA 94306, USA; Phone: 415-856-0920.

••• BASIC TIPS •••

This section focuses on the 95LX's built-in applications, giving tips of a more basic level. We are interested in your feedback on this section. Is it differentiated enough from Quick Tips? Do you have any tips? Please write: *The Editor, The HP Palmtop Paper, Thaddeus Computing, 57 E. Broadway, Fairfield, IA 52556.*

Appt

TIMER AND STOPWATCH IN APPT

The 95LX has a Timer and Stopwatch built into APPT. Timer can be set to beep in a specific amount of time, warning you of an upcoming meeting, or to stop boiling the fudge. Stopwatch can be used track efficiency at work, or time the 400 Meter relay at Barcelona.

Press [F9] to enter Watch. The highlight bar will be resting on **Stopwatch**. You can time any event to the hundredths of a second by pressing [F6] to Start the stopwatch and [F6] again to stop it. Pressing [F4] resets the time.

Press [<Down>] once to move to **Timer**. Enter the number of hours and minutes you want (e.g. **:9** = nine minutes; **1:13** = one hour and thirteen minutes). Then press [F6] to start the timer, and [F6] again to pause it. A digital readout to the right will count down the remaining time, and Timer will repeatedly beep when you run out of time.

Connectivity

IN APP95, ALT F10 = MENU, CTRL-F10 = CHAR

If you use HP's Connectivity Kit you will need to run APP95 on your desktop computer. This allows you to run desktop versions of the 95LX's built-in applications. Your desktop computer does not have [MENU] or [CHAR] keys. Whenever you are using any of the desktop versions of the 95LX built-in applications and you need to access those keys, press [ALT]-[F10] for MENU and [CTRL]-[F10] for CHAR. For example, if you're in the desktop version of MEMO and you need to quit the application, press [ALT]-[F10] (to access MENU) **Q**uit.

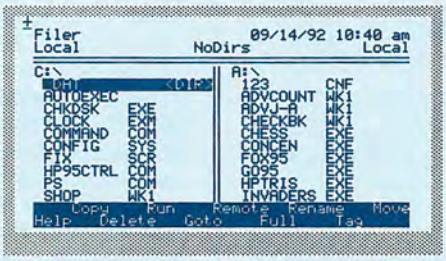
Filer

USING FILER'S SPLIT FUNCTION TO VIEW C AND A DRIVE AT THE SAME TIME

In FILER, you can use the Split function to simultaneously view the contents of two different directories on the same drive. Let's say you wanted to compare the contents of your C drive and the C:_DAT directory. In the C drive, press [F7] (Split). There will now be mirror images of C drive. Highlight _DAT and press [ENTER]. Now you see the contents of _DAT on one side of the screen, and the basic index of C drive on the other. You can view the complete contents of either drive by pressing [F7] (Full), so long as the highlighting is on the side of the screen you wish to view.

The same principles work if you want to look at the C and A drives at the same time. Press [F7] (Split) and you will see two C drive screens. Now press [F5] (Goto) **A:** [ENTER]. The side of the split screen with the highlighting on it will now show the contents of the A drive.

Split screens are extremely helpful in Copying or Moving files in Filer. With Split screens, you can see the computer actually do the work.



FILER's Split Screen

BACKING UP YOUR FILE

FILER's ability to copy, rename, or otherwise manipulate your files makes it the application you'll use to back up files.

Let's say you want to keep a backup copy of your Phone Book (and you do not have a RAM card). Enter FILER, move the cursor to **_DAT** and press [ENTER]. This moves you into the directory where your Phone Book file is kept. To find your Phone Book, look for the file(s) with the 3-letter, PBK extension (i.e. MAIN.PBK, or something like that). If you're not sure of the name of your Phone Book, press [PHONE]. Your phone filename will be listed in the upper left of your PHONE screen.

Back in FILER put your cursor on the name of your Phone Book file. Press [F2] (COPY), type in **C:**, and finally press [ENTER]. You have just created a back-up of your Phone Book on the main C drive. Find that backup file by first moving your highlight bar to the line at the top of the screen (the one that says " .. ▸View Up◂ "). Press [ENTER] and you will be back in the main C directory. Move the highlight bar down the list until you find your backed up Phone Book file. If anything ever happens to your Phone Book you have a back-up copy as of today's date in your main C drive directory.

If you have a RAM card, be sure to back up your PHONE, APPT, or other crucial files to it. Instead of copying the files to **C:** as instructed above, copy them to **A:**.

File Backed Up on C:\

HP Calc

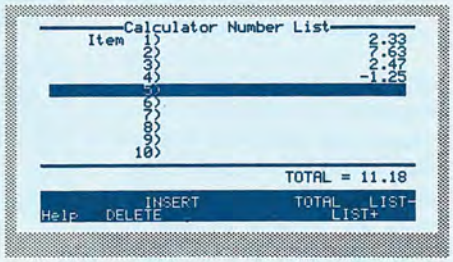
KEEPING A RUNNING TOTAL

HP CALC's LIST function has many uses, whether you're out shopping at the grocery store or want to keep track of expenses on a family trip.

With HP CALC up, type [MENU] List. If there are any items on the screen, clear it by typing [MENU] Erase Data. Now start entering your items.

Suppose you are grocery shopping: type in **2.33** for item 1 and **7.63** for item two and **2.47** for item 3. What you'll see on the list is item 1, item 2, item 3 showing the amounts we've just typed in. At the very bottom of the screen, the total is **12.43**. Now suppose you were returning some bottles for their deposits. Lets say you've got 25 bottles and you get a nickel ($.05) back for each bottle. Type **25 * .05** and press [F10]. You press [F10] when you want to subtract from the list. Since we're getting a refund for our deposits, we'll subtract it from the total. We press [F10] and enter **-1.25** as the 4th item in the list. The total now reads **11.18**.

You can also press [F3] (DELETE) to erase an item, or move the cursor to an item number and press [F4] (INSERT) to insert an item into the list.



Keeping a running total with HP CALC's List Function

Phone

QUICK SHIFTING BETWEEN CARDS

When viewing individual cards in the Phone Book, you can switch from one card to the previous card or to the next card by pressing [<Shift>] and then pressing PG UP or PG DN. This will make it easy to compare entries.

▲▲▲ QUICK TIPS ▲▲▲

Lotus

ENCRYPTING DATA AND HIDING FILES

One way to protect your sensitive information is to keep it in a Lotus worksheet and save it with a Password. To do this when saving the worksheet, type in the name you wish to save the file under, followed by an empty space and the letter **P**. Then press [ENTER]. You will be prompted to enter a password (see page 6-11 of the *HP 95LX User's Guide*). The password is required to retrieve the worksheet into Lotus, and the sensitive data is not visible with any hex file editor like Norton Utilities.

A LOTUS spreadsheet damage recovery program called RESCUE has an included program that will rescue a forgotten password.

Another way to encrypt data is to use a file compression program like DIET.

Marc Schiffring
CompuServe ID: [72311,173]
Michael Gilchrist
CompuServe ID: [73557,2232]

@BASE DATABASE WORKS WELL ON 95LX

I installed an old copy of @BASE (a Lotus add-in) on the 95LX. It provides a full XBASE-type database on my 95LX, which seems to work well. I can move between MEMO, PHONE, APPT, and Lotus without any problems!

Steven White
CompuServe ID: [100036,145]

LOTUS 123 MACROMANAGER ADD-IN WORKS ON 95LX

I have been using the MacroManager add-in from Lotus 2.2 for about 8 months without (knock wood) any problems. It uses a macro library file of about 14K that has almost all the macros I use on a daily basis in it. I think this add-in is VERY useful because I don't have to duplicate all these macros in each spreadsheet.

Ronald Vieceli
CompuServe ID: [73310,3663]

APPT

MACRO TO GET LISTING OF DATA FILES

If you keep all of your APPT, PHONE, and MEMO data files (ABK, PBK, and TXT) in one directory (say C:\DATA) you can use the following User Defined Function Key (Macro) to get a file listing of the data files while you are in the application:

[Menu]FO{BkSp}
(9 times)C:\DATA\[Enter]

This assumes that you use the standard extensions (.ABK) for the data files. The above example assumes that the data files are stored in the DATA directory of the C drive. If the DATA directory was on your RAM card, **C:\DATA** would be replaced by **A:\DATA**.

Mark Scardina
CompuServe ID: [71551,467]

MACRO FOR BACKING UP APPOINTMENT BOOK

This macro automatically saves changes for the appointment book, closes the application and creates a file backup in card A. It could be easily adapted to any other application.

A RAM card should be installed and the 95LX switched to English language. The name of the appointment file I use is CALENDA1.ABK and its path is C:_DAT\CALENDA1.ABK. You can change the name and path to suit yourself. This macro also assumes that A:\BACKUP already exists.

```
{MENU}qy{ENTER}y
{FILER}{F7}{RIGHT}{F5}
a:\backup{ENTER}{LEFT}
{F5}c:\_dat\calenda1.abk
{ENTER}{ESC}{F2}
{ENTER}y{MENU}q
```

José M.ª Lafora García
HP Española
Madrid, SPAIN

Battery

BATTERY LIFE

Over the last six months I tested the battery life of four different kinds of Double-A batteries. In each case I used the 95LX 1 hour per day and used the serial port once a week. I did not connect the 95LX to an AC adapter during the tests.

Company/Name	Average life in days
Eveready/Alkaline Energizer	29
Eveready/Lithium Energizer	58
Duracell/Duracell	32
Gates Energy/Millenium*	7

* No battery warning was given due to the quick drop off at the end of the battery life. Because of the short life, the serial port was used only once.

Marty Mankins
Take It With You
Orem, UT, USA

PUTTING NON-ALKALINE BATTERIES IN BACKWARDS CAN DAMAGE THE 95LX?

According to an HP Tech Support person, the 95LX does have reverse battery protection, but the circuit has been tested only with alkaline batteries, and HP will give no assurances that it will work or not self-destruct if a user installs Ni-Cds or equivalent. That is, if you install alkaline batteries backwards, the circuit will protect the 95LX without burning up, while all bets are off if you use Ni-Cds.

Victor D Roberts
CompuServe ID: [70413,1423]

DEFECTIVE MAIN BATTERIES DECREASE LIFE OF BACKUP BATTERY

If you have an intermittent short in the main batteries (which is not unrealistic for the new style alkalines), you may be using the backup battery more than you expect. If you find yourself going through backup batteries, try changing your main battery brand.

Ted Dickens (HP Forums Sysop)
CompuServe ID: [76701,272]

RECHARGEABLE BATTERIES

The 95LX is built for alkalines. It has no recharging capabilities and its internal battery logic is set for discharge rates of alkaline batteries and may not give you enough warning when using rechargeable batteries.

Those who choose to use rechargeables will have to develop their own plan for switching the batteries often enough to prevent memory loss

Ted Dickens (HP Forums Sysop)
CompuServe ID: [76701,272]

Connectivity

CORRECTION: CONNECTIVITY PACK'S MERGE DOES NOT WORK ON THE 95LX

The tip published in "Quick Tips" (page 46, July/August issue) is erroneous. It was taken from a message I wrote, but I had not tried the technique. Another CompuServe forum member tested it and found that it did not work. I don't understand the reasons, but apparently the desktop versions of the built-in applications do not run on the 95LX.

Ted Dickens (HP Forums Sysop)
CompuServe ID: [76701,272]

AUTOMATE BACKUP OF THE HP 95LX

I have a simple BATch file that accomplishes a backup using DSC-95:

```
echo assuming HP95 is running DSC95.EXE...
cd \comm\cpack
dc95
xcopy d:\*.* c:\comm\cpack\bckup\a /s/e/v
xcopy e:\*.* c:\comm\cpack\bckup\c /s/e/v
dc95 -U
```

I run it every night without fail. I feel a little better all day.

Greg Witek
CompuServe ID: [72611,2114]

SYSTEM RAM REQUIRED TO RUN DCS95.EXE

To run the DOS connectivity utility DCS95.EXE on the 95LX requires the System RAM to be at least 242K. Anything smaller causes error messages/doesn't work.

Phillip Simpson
Clayton, Victoria, AUSTRALIA

BACKUP TO FLOPPY DISK SIMPLE

On page 19 of your July/August issue you indicated that only "more experienced" users will be able to transfer directly to floppies. I am far from experienced, but was able to figure out a very simple procedure. Once you have started APP95 and are in the remote mode, switch to split screen with your highlight bar in your desktop's half of the screen. Put a floppy into the PC, press [F5] (the Goto key), and type in the appropriate drive letter of your PC's floppy drive (usually A: or B:). You can then highlight the desired files

on either side of the split screen and transfer them back and forth by pressing [F2] (Copy).

I create a directory on the floppy disk with a name like "BU081792" (BU = backup, 081792 = August 17, 1992). I then back up the entire 95LX into that directory of the floppy disk.

If something goes wrong with your 95LX files, you can reload the contents of the floppy disk directory back to the 95LX effortlessly. When you are done reloading to the 95LX just reboot and EVERYTHING is exactly as it was.

I now only backup files that have changed since the last backup. A batch file or DOS connect is not needed, and a novice can do this easily. The backup takes me less than 5 minutes a week now, and it has been a life saver on several occasions.

Jeffrey Zorn
Farmington Hills, MI, USA

CCMAIL-REMOTE WORKING ON THE 95LX

You must use version 3.2. I have the program and associated files on the root directory of a 1MB RAM card (A:\). I invoke the program with:

remote a: msgsize/10 comm/int14

The A: is required to keep the program from asking you to insert disks (cards). The MSGSIZE/10 limits the maximum message size to 10K. The COMM/INT14 is required to circumvent a 95LX hardware bug.

I find I must run at 2400 baud maximum. Don't forget to enable the serial port (**serctl /w**), with cursor tracking (**dispctl +k +c**), and set current directory to A: before running.

Paul Laughton
CompuServe ID: [70313,2755]

DATA TRANSFER WHEN THE 95LX IS OPERATING ON BATTERIES ONLY

I have limited access to an additional AC outlet in the room where I keep my desktop computers, and tend to do file transfers without connecting the 95LX to an AC adapter. The only thing you need to watch out for is "dead time" between file transfers. If the 95LX does not see any activity in 3 minutes, it will "shutdown" and you will lose connection between the 95LX and the desktop. Some people mistakenly believe that it is a problem with the batteries they are using, but I have seen this happen with the 95LX no matter what battery is in use.

You can use TimeOut or 95Buddy to reset the timeout period for more than 3 minutes, and this should eliminate the problem.

John Crea
CompuServe ID: [76636,3676]

C:\ DOS Tips

CREATING HELP FILES FOR DOS APPLICATIONS

This is a suggestion to those using DOS applications on the 95LX. Typically, the help files tend to be large and contain too much, or improperly (for the 95LX) formatted text. If your application has macros and can execute a DOS command, you can create a text file with the help info you need (formatted for the 95). Then using a utility like RE.EXE, create a macro that invokes it and your help file. This creates pop-up help screens that work very well on the 95LX.

Mark Scardina
CompuServe ID: [71551,467]

DECIDE SYSTEM CONFIG AT BOOT UP

I've been experimenting with a useful little application that I picked up on the CompuServe PCVENB forum called BOOT.SYS. Basically, BOOT.SYS allows you to decide at boot time which configuration to run, and then sorts out which commands/device drivers to load. It works great on my Compaq desktop, allowing me to choose whether to use HIMEM.SYS or QEMM.SYS etc. I had an idea that it would be just the thing for the 95LX, to boot into DOS or SYSMGR, and yes it actually works. No more adding and deleting the SHELL command line in the CONFIG.SYS file!

Ian Wells
CompuServe ID: [100020,734]

XTREE PRO: FAMILIAR FILE MANAGEMENT

Use Xtree Pro as your file and disk manager. It allows files to be edited, which earlier Xtree versions do not. Xtree Pro is simpler and requires less disk space than Xtree Gold.

Transfer XTREE.COM, XTPROCFG.EXE and XTPRO.01 from the Xtree Pro disk to your 95LX. Use XTRPCFG.EXE to set up the display for the 95LX. Then you can delete it. Use COMTOEXE to convert XTPRO.COM to an EXE file. Move around the Xtree 80 column display with the [ALT] <arrow> keys. Xtree will treat the additional drives as "network" drives. (This is shown when you run DCS95 on your PC.)

Gary Oliver
Milsons Point, NSW, AUSTRALIA

& Misc

NEW 95LXs IN THE WORKS?

When? Who knows! Leaks about new products five-six months ahead of schedule are pretty rare; 2-3 months is more typical.

It's a safe bet that HP is working on follow-up products; the success of the 95LX and the stumbling of competitive products make it imperative that HP seize this opportunity. If HP can stay on top of the technological heap, they can repeat their success in the calculator markets where even though they may not sell the most – they are clearly recognized as king of the hill.

If an HP palmtop becomes the 12C of the executive suite, HP will reap many benefits.

Ted Dickens (HP Forums Sysop)
CompuServe ID: [76701,272]

WHEN HARD RESET FORMATS DISK

A hard reset (press <Shift> <Ctrl> <On>) does not automatically reformat (and erase the files on) the RAM disk. Anytime the 95LX boots, the BIOS checks the disk. If everything is OK, the boot continues (or the user is prompted to "initialize disk?" for a hard reset). If there's something wrong with the data on the hard disk, "RAM disk corrupted..." will be displayed and you will be asked if you want to "Initialize disk?" If the RAM disk can't be found (for example, your main and backup batteries died at the same time and you lost everything) the 95LX will go ahead and format the disk without prompting you.

Everett Kaser
CompuServe ID: [70662,2540]

Memory Cards

DIFFERENT MEMORY CARDS

Let's see if I can run through the alphabet soup of memory:

- ROM = Read Only Memory

The first one costs $500,000 – but the 2nd one only costs a buck. Buy lots! Lowest cost, highest density memory chip.

- PROM = Programmable ROM.

A PROM can be "burned" with any information you want, but it can only be done once. Per-unit cost is higher than ROM, and density isn't as high – but there's no massive setup cost. You do need a PROM burner – a specialized piece of electronics.

- EPROM = Erasable PROM.

This is a PROM that can be erased with a long dose of intense ultraviolet light. EPROMs have small windows in the top through which the UV is sent; in normal use, a piece of tape covers the window to prevent unintentional erasure. More expensive/less dense than PROMs, but mistakes aren't as expensive.

- EEPROM = Electronically eraseable PROM. Same concept, only it can be erased electronically.
- Flash RAM

A new kind of EEPROM which allows the chip to be modified byte by byte. Flash RAM seems to be breaking the traditional tradeoff between flexibility and cost, with densities much higher than EEPROM yet with lower costs.

Ted Dickens (HP Forums Sysop)
CompuServe ID: [76701,272]

SET Set Up

OPTIMUM RAM DISK / SYSTEM RAM SIZE

Dividing up the 95LX's RAM memory between the RAM Disk and the System RAM is done from SET UP (press **S**ystem **M**emory and use Right and Left Arrow Keys). You have to consider how you use the 95LX when deciding how to divide up the RAM.

If you have a lot of data and only use the built in applications, set the System RAM at the minimum needed to run the applications (about 250-300K). That way you have the largest possible RAM Disk to store text, data, and config files.

If you have some big programs and very little data to store, then set the System RAM as high as you can (394K for the 512K 95LX and 640K for the 1MB version). This allows you to run larger programs.

There may be a multitude of gradations between A and B, so you may have to experiment to find the right balance.

Frank Nagle
CompuServe ID: [71140,1253]

95Buddy on Jul/Aug issue of The HP Palmtop Paper ON DISK. RE.EXE, TimeOut and COMTOEXE on 92 Subscriber Disk. All others on Sep/Oct 92 issue.

HOW TO CONTACT US

There are a number of ways to get in touch with *The HP Palmtop Paper* staff. You can write; mail us a disk with your comments; send CompuServe mail; fax; or call. Our address is:

Thaddeus Computing, Inc.
The HP Palmtop Paper
PO Box 869 or 57 E. Broadway
Fairfield, IA 52556, U.S.A.

Fax #:515-472-1879
Phone: 515-472-6330
or 800-373-6114

CompuServe ID:
Hal Goldstein, [75300,2443]

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Technical Support

ASK THADDEUS, Thaddeus Computing, Inc. – Fax us your problem and we'll call you back with the answer (see page 15 this issue for more information). Customer rates, per minute (we pay long distance charges): USA – $2.00; Canada – $2.35; European Economic Community – $3.25; Mexico, South America, Africa – $3.50; Asia, Eastern Europe, Australia – $4.00.

HP Technical Support – HP offers these options:

- 90-DAYS FREE SUPPORT– is offered to all 95LX users and is available by calling (503) 757-2004.
- FREE AUTOMATED SUPPORT– is offered 24 hours a day by calling (800) 443-1254.
- 6-MONTH SUPPORT CONTRACT– for $149 you get a toll-free number and 6 months of unlimited support. Call (800) 443-1254.
- 900-NUMBER SUPPORT– available on a pay-as-you-go basis (first minute free, $2.00 per minute thereafter). Call (900) 288-0025.

How to submit an article

The richness of *The HP Palmtop Paper* comes from the contributions of 95LX users. We and your fellow users welcome your submissions. (We do not offer payment for articles; your reward is knowing that you've helped others.)

If you have a good idea and want to "go for it," send it in via CompuServe EMail [75300,2443] or send disk or hard copy to Hal Goldstein or Rich Hall at the above address. Alternatively you can send an outline of your idea. We will try to guide you as to when and whether we would use the article and contact you if we need clarification or have any suggestions. We may want to use an article but for a variety of reasons you may not see it for many months. Also, please understand that we cannot promise to run any article.

If you can, especially if you write a Palmtop Profile, send us a black and white photo of yourself.

Products Advertised in *The HP Palmtop Paper*

Company	Product	Page number
ACE	(DoubleCard RAM Memory Cards)	inside front
	(Switch)	1
	(BATTman Battery Monitoring Software)	3
	(myREMOTE)	4
ASP	(Calendar Supplement)	43
Active Data	(RAM Memory Cards)	outside back
BSE	(Serial/Parallel Connectivity Kit)	33
CM Software	(Pocket Sales Force)	20
Computer Instructors	(95LX, Lotus, ACT! Training Classes)	41
Contact Software	(ACT Contact Management Software)	11
Databook	(Memory Card Drive)	34
DataViz	(MacLink Plus)	inside back
E-Z Arithmetic	(Math tutorial)	32
EduCALC	(95LX Accessories Catalog)	28
El Dorado Trading	(HP 95LX and Accessories)	40
Essex Marketing Services	(UTIL - Forth Programming)	39
Greenwich Instruments	(Serial-to-Parallel converter)	47
Imaging Supplies Express	(RAM Memory Cards)	13
IntelliLink	(Windows/95LX Connectivity Software)	19
Lighthouse	(Palmtop Database)	21
	(Palm Reference)	23
Manhattan Consulting	(Modem)	35
Magic RAM	(RAM Memory Cards)	7
MIRIC L Corp	(Personal Food Analyst)	24
New Media	(Card Modem)	6
Palmtree Products	(GPS Navigational Receiver)	45
Pouch	(Carrying Case)	35
Q/A Systems	(QA Palm custom database builder)	48
Silicon Disk	(RAM Memory Cards)	46
Soft Warehouse	(DERIVE)	31
Sparcom	(RAM Memory Cards, software & hardware)	26-27
SkyTel	(SkyTel Wireless Information Service)	12
Thaddeus Computing	(Ask Thaddeus Technical Support)	14
Thaddeus Computing	(HP Palmtop Paper ON DISK)	15
Widget	(Paralink 3 Serial/Parallel Adapter)	36

Software on The HP Palmtop Paper ON DISK (July/August 1992)

Product	Function	Type	Page
BCALC.ZIP	Application: Calculator program	Shareware	40
MRCRY209.ZIP	Application: Calculator program	Shareware	35
RMTEST.ZIP	Demo: Tests to see if myREMOTE works on your home entertainment system.	Free	32
EFMS	Demo: Flat file database (limited demo version)	Free	46
BEBACK.COM	Entertainment: The Terminator tells you "I'll be back."	Shareware	32
MUS95.ZIP	Entertainment: Music for the 95LX.	Shareware	31
SNDPLAY.ZIP	Entertainment: Hear quotes & sounds on the 95LX	Free	32
SNDS.ZIP	Entertainment: More sounds for the 95LX	Free	na
STARTREK.COM	Entertainment: Logo of the United Federation of Planets; turn your 95LX off and on for "communicator" chirps	Free	32
TALKER.EXE	Entertainment: Type a word and hear it on the 95LX	Free	32
RUSSIAN.PCX	TopCard: With Russian word for "Hello" at the bottom	Free	3
TLG.PCX	TopCard: With FastAid logo/contact information	Free	34
EXPENSES.ZIP	Spreadsheet: Maintain expense records in different currencies	Free	22
ABKRP	Utility: Translates PBK files into an 80-col text file or ASCII data file	Shareware	46
ABKASC	Utility: Translates PBK files into 80-col, comma delimited, ASCII data file suitable for use with may database programs	Shareware	46
BOOT.SYS	Utility: Allows multiple CONFIG.SYS files	Shareware	51
UNZIP.EXE	Utility: decompresses .ZIP files	Free	na
HPALL.ZIP	Text: Descriptions of files in all HP forums of CompuServe	na	na
PM2400.95	Text: How to get the Practical Peripherals Pocket Modem to work with the HP 95LX	Free	16
TINYMO.95	Text: More information on modem modification	Free	16
ADVERT.ZIP	Text: in-depth descriptions, products advertised this issue	na	na
PTP5.ZIP	**Text: The HP Palmtop Paper, May/Jun, 1992**	**na**	na
README.ZIP	Text: cover letter for HP Palmtop Paper ON DISK	na	na

Software mentioned in this issue and included in other issues of The HP Palmtop Paper On Disk or the 1992 Subscribers Disk.

95BUDDY.ZIP	(Jul/Aug 92) Fixes problems, lets you reset timeout	Shareware	51
CMCALC.EXM	(92 Subscribers Disk) Computer Math Calculator	Free	4
DAILTO.ZIP	(May/Jun 92) Produces touchtone dialtones on the 95LX	Shareware	36
DIET	(92 Subscribers Disk) File compression	Free	17
GVCMOD95.DOC	(Fall 91) Get the GVC modem to work with the 95LX	Free	16
PKL103.ZIP	(Jan/Feb 92) Compression program for COM and EXE files	Shareware	17
PKZ100.EXE	(Mar/Apr 92) File compression program	Shareware	17
TIMEOUT.COM	(92 Subscribers Disk) Lets you reset timeout	Free	51
U-SOUNDS	(92 Subscribers Disk) Produces 10 different sounds	Free	31
WEEKABK	(92 Subscribers Disk) Week-at-a-glance display of Appointment Book	Free	23
ZIP.COM	(92 Subscribers Disk) ZIP Transfer program	Shareware	33

The Fall 1991 *HP Palmtop Paper ON DISK* consisted of over 20 files, including those mentioned on page 36 of the Fall 1991 issue of *The HP Palmtop Paper*. The Jan/Feb 92 *HP Palmtop Paper ON DISK* consisted of over 24 files, including those mentioned on page 43 of the Jan/Feb issue of *The HP Palmtop Paper*. The Mar/Apr 92 *HP Palmtop Paper ON DISK* consisted of 28 files, including those mentioned on page 44 of the Mar/Apr issue of *The HP Palmtop Paper*. The May/Jun 92 *HP Palmtop Paper ON DISK* consisted of 29 files, including those mentioned on page 48 of the May/Jun issue of *The HP Palmtop Paper*. The Jul/Aug 92 *The HP Palmtop Paper ON DISK* consisted of 17 files, including those mentioned on page 48 of the Jul/Aug 92 issue of *The HP Palmtop Paper*.

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MEMORY CARDS

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- **HP Infrared LaserJet Printer Link**
- **HP Dictionary/Thesaurus Card**
- **SkyStream Receiver**
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